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Textile World

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Action Behind Talk in Quality Drive

RETAILERS and manufacturers are falling over each other in their rush to reaffirm their belief in quality.

To some observers, the public statements being made on this subject may seem to be rather naive announcements of an apparently new discovery. To others, the statements may appear to resemble a now pending piece of national legislation which, in effect, would commit the Government to a belief in prosperity.

To this observer, however, the talk seems to be backed by determination, and to promise action.

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What is the reason for this seemingly spontaneous outburst on the part of industry and trade?

The answer, in our opinion, is the consumer. He, or she, has struck. And just as the famous buyers' strike of several years ago brought an end to the crazy price inflation of post-war days, so will the "price" strike of today bring an end to the equally crazy quality deflation of the last two years.

If any "discovery" has been made, it is that the consumer is interested, only to a certain extent, in price; and that he or she is totally uninterested in inferior merchandise at any price. That lesson could have been learned much less expensively; prophets have been preaching it continually but without response. However, the encouraging fact is that it has been learned.

And so, today, we have manifestations of a saner era. We have such constructive developments as the formation of the National Quality Maintenance League; the ultimatum served by rayon producers on the knitters of inferior fabrics; the declaration of the president of the National Retail Dry Goods Association that "consumers today cannot afford to buy poor merchandise because it does not give service." The number of examples could be multiplied indefinitely because on practically every page of every publication today, this message is screaming for attention.

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Why do we feel there is potential action behind this talk? Merely because the two groups which can do most to correct the situation, namely, the manufacturers and the retailers, have at last realized that the third major group, the consumers, will no longer be a party to the glorification of price.

Manufacturers and retailers have come to the end of that road. Not from philanthropic motives, not from academic logic, but from dollars and cents reasoning, they see that the signpost toward survival points down the road of quality at a fair price.

In this one development lies the greatest hope of a way out.

The Week in Textiles

as Reflected in This Issue

General

"Shrink and Sell"
A mill is in serious financial trouble—facing liquidation. Shall it liquidate; shall it "hang on" for better times; or shall it adopt a policy of shrinking to profitable size. A clinical analysis of the condition of an actual manufacturing unit shows that the latter policy is the logical one to adopt. *(page 16)*

Applied Analysis
Closer analysis of textile mill operations with a view to basing decisions on accurate knowledge rather than hearsay is well within possibility. Recording of data on conditions of performance is one direct way of building up practical working knowledge. *(page 25)*

Static Eliminator
To overcome the difficulties encountered through the setting up of an electrical charge in warping silk and rayon, a new static eliminator has been developed. The contrivance is described and illustrated. *(page 42)*

Cotton

Country Hails Cotton
Spirited consumer demand was indicated in early response to National Cotton Week, which was celebrated this week by 20,000 stores at a promotion cost of $2,000,000. Radio, television, advertising and other methods of promotion were widely used. *(page 18)*

New Durene President's Message
R. B. King, new president of Durene Association of America, sees trend toward unity in certain divisions of American industry, as one of important lessons learned from present economic crisis. *(page 19)*

Constructing Marquisettes
The methods of constructing a range of marquisette fabrics from those of simple design to those exhibiting more intricate patterns are carefully described and illustrated. The insertion of extra filling figures in a variety of effects lends interest to the more fancy weaves of this group. *(page 20)*

George A. Walcott Dies
George A. Walcott, vice-president and chairman of the board of Hunter Mfg. & Commission Co., shot himself in a spell of despondency last Monday. His active participation in efforts to better trade conditions contributed to the break down of his previously good health. *(page 24)*

Tarnish-Proof Felt
A method of treating cotton felt in such a manner that silver enclosed in it will not tarnish is described. *(page 44)*

Narrow Market in Cotton
Cotton fluctuated narrowly in an inactive market this week. There is a tendency to await further developments and there was little evidence of selling pressure. *(page 49)*

Yarns Try to Resist
Cotton yarns show further resistance to pressure on prices. Dealers refuse to submit ridiculously low offers and spinners incline to shut-down. *(page 49)*

Cotton Statistically Weak
Cotton goods figures for April disclose the adverse turn which brought the price break early in May. *(page 51)*

Wool

Russia Improves Wool
Important progress is being made by the U.S.S.R. in improving Russia's wool output. Although Russia leads world in number of sheep, that nation is third in wool output due to primitive methods of production. *(page 36)*

Wool Interest Apathetic
Mill interest in raw wool is apathetic, though sentiment among dealers is reported to be improved. *(page 50)*

Rumor Market in Yarns
Worsted yarns clearly need more vigorous efforts toward stabilization. The market is prone to be swayed by unconfirmed price rumors. *(page 49)*

Weather Helps Fabrics
A spurt of hot weather has helped certain summer wool goods lines but demand generally is light and shutdown grows more likely. *(page 51)*

Knitting

Full-Fashioned Narrowing
Because of the important part which the narrowing mechanism plays in the knitting of mesh full-fashioned hosiery, M. C. Miller's series of articles on this subject are of timely interest. His clear explanations of the various and intricate functions performed by the different parts of the machine during the narrow-

The Textile Outlook

THERE is still no point on which textile eyes may focus in expectancy for the dawn of business improvement. The best that can be done is to take things as they are and buckle down to work out problems in terms of facts as they exist. The prime fact is the shrinkage of business and possible progress in the textile field is still being hampered by those concerns which seem to chose business suicide by taking orders at a loss rather than shape their output to a volume and style which may be distributed at a fair price. Here and there are encouraging examples of companies which are selling a wanted product at a fair price. Many others must learn to sell what they make, or, failing that, to make what they can sell. If neither seems possible a shutdown is the best medicine, as other companies will then not be hampered by irresponsible competition. Prices below cost are too widespread in the industry to permit a rosy outlook unless the trade gets a free ride on the wave of returning prosperity not yet in sight. Members of the industry must cure their ills from within. Then if all industries do the same there may be a basis for a more optimistic outlook on the immediate future.

ing operation should enable many fixers to understand their work more thoroughly and to obtain improved results. *(page 30)*

Coulier-Motion Safety Switch

Development of a new safety switch to be used in connection with the Coulier motion on full-fashioned knitting machines is announced. The operating principle of the switch is described and illustrated. *(page 42)*

Mesh Hosiery Outlook

Mesh hosiery manufacturers believe price weakness is temporary and that advancing season will revive both prices and sales. *(page 52)*

Styled Underwear Preferred

In a sluggish underwear market, distinctively styled garments for women are the strongest line. *(page 52)*

Pick-up in Swimsuits

Rising temperatures accelerated demand for swimsuits. *(page 52)*

Not Higher Tariff, but Intended Tariff

FRANKLIN W. HOBBS, president of the National Association of Wool Manufacturers, appearing before the House Ways and Means Committee last week in favor of legislation to readjust tariff duties to compensate for depreciated currency of foreign countries, pointed out that this is not a request by manufacturers for a new tariff but for the tariff which Congress intended they should have.

He gave the following example: Foreign cloth which formerly entered at $1.00 per yd., and paid a duty of 50% of cost, making a total here of $1.50, now costs because of depreciated currency 75c. per yd., on which the 50% duty is 37½c. making a total cost of $1.12½.

To correct this, he stated, there should be in this case a levy of 25c. per yd. to compensate for the depreciated currency, and the ad valorem duty should be figured on the standard unit of value, thus making the duty-paid imported price $1.50, as was intended.

Mr. Hobbs amplified his argument by stating that "certain foreign countries seek to negative the effect of our tariff laws by going off the gold standard or otherwise affecting the rate of exchange."

Silk

Low Boil-Off and Weakness

The fact that a silk has a low boil-off is not to be considered an indication of weakness. In fact, it is quite often that the reverse is true, a low boil-off indicating a hard-nature thread, well aglutinated, and of a good cohesion. *(page 45)*

Institute Helps Throwsters

Throwsters Research Institute, three months operating, has materially helped prices by spiking false reports of underquoting. Achievement offers an object lesson for other textile divisions, as explained in TEXTILE WORLD Analyst. *(page 47)*

New Silk Decline

Political disturbances in Japan weakened the yen which in turn caused a drop of 5 to 10c. in silk prices. Demand here was light and outlook is doubtful. *(page 50)*

Spun Yarn Prices Break

Liquidation by spinners of surplus stocks was believed responsible for a break of about 55c. in spun silk prices this week. The cut spurred weavers to a spurt of buying. *(page 50)*

Thrown Silk Flurry

Thrown silk business is a solo proposition, being restricted to spirited call for 3-thread Japan crepe, 78%, which is in demand among Paterson weavers. *(page 50)*

Novelty Broadsilks Favored

Current call for broadsilks shows a trend to novelty fabrics, especially sport lines. Printed chiffons slow. *(page 51)*

Rayon

Narrow-Fabric Weaving Problems

The inherent differences in the characteristics of cotton and rayon make the weaving of ribbons containing these two materials appear defective, as there is a tendency for the ribbon to curl at the edge. A simple wet finishing is the only satisfactory method to remove this curl. *(page 44)*

No Decision on Shutdown

Reflecting continued drop in demand, rayon yarn plants have cut output to 50% and may reduce further. Producers hesitate on general shutdown. *(page 50)*

J. E. Bassill Heads Tubize-Chatillon

John E. Bassill was elected president of the Tubize-Chatillon Corp. succeeding B. G. Slaughter, at a New York meeting of directors. Stockholders at earlier meeting approved changes in company's capital structure proposed last month. *(page 53)*

The Business Outlook

SO FAR this month there has been no marked change for the worse in the picture of production and trade as a whole. Most measures of business activity, as distinguished from security market and financial sentiment, have in fact made a bit better showing in the first half of May than in the last half of April and seem to be reaching some sort of stabilization basis. Steel production shows a slow but steady unseasonal rise which reflects moderately increasing automobile output and is expected to continue well into the summer. Building contracts have improved so far in May contrary to seasonal expectations, due solely to public construction which now exceeds private and has become the main reliance of the industry. Check payments continue the rising trend they have shown since February ,and most other indicators are fairly steady. Federal Reserve policy has checked the decline in bank deposits, built up reserves and reduced member bank borrowing, but has not yet been effective in initiating active credit expansion. Continued weakness of the bond market in spite of record low rates for short-term Government financing reflects the blue-funk in banking circles arising from increasing uncertainty about Congress.—*The Business Week.*

Processing

Finishing Cotton Fabric

The difference exhibited in the finish of two cotton fabrics is determined as being due to the fact that, while one had been run down through the starch solution in the mangle, the other had been run direct to the nip of the bowls, thus producing a more noticeable distribution of the paste on one side than on the other. *(page 44)*

Splotchy Effect in Cotton Suede

The formation of oxycellulose on the irregular surface of the goods as they lie in a pile is quite common when the material is bleached with hypochlorites in pits. Recommendations are offered to overcome this defect. *(page 45)*

"Shrink and Sell" or Liquidate . . .

What Should This Mill Do?

By James A. Austin
New England Editor, TEXTILE WORLD

WHAT is a mill to do when losses have wiped out reserves and surplus, and receivership looms within the year? The facts of the case in an actual mill are presented in this article, and critical analysis reveals that in this instance the whole problem of plant and equipment hinges on the merchandising problem of producing efficiently only what can be sold at a profit. . . . Another application of the "Shrink and Sell" policy outlined editorially in the Annual Number of TEXTILE WORLD.

OVER a period of eight years the business of a certain mill, which, of course, must be nameless, has been unsatisfactory. In some of these years the loss was large, in others small, and there was one year when a small profit was made. In the aggregate, however, the total net loss has been great enough to wipe out the healthy surplus and reserves that existed eight years ago and the mill now faces a serious financial situation. Something must be done if receivership is to be averted. What that something should be can be determined only by listing the facts of the case and subjecting them to clinical analysis.

The basic facts are as follows:

The mill was established many years ago and was an excellent money-maker even before the war period boomed profits. It is well located in a good-sized industrial city, central as to markets and with a good reputation in the trade. The plant consists of four major buildings, a few out-buildings and tenements, and sufficient land. The four major buildings will be known as Nos. 1, 2, 3, and 4, for purposes of identification:

Building No. 1. An ancient three-story wooden building with old power house of brick adjoining. Connected with Building No. 2 on all floors.

Building No. 2. Old-type wooden building of three stories. Connected with Building No. 3 on one floor.

Building No. 3 Modern three-story brick structure. Joined to Building No. 4 by passageway on ground floor.

Building No. 4. The newest of the buildings. Three floors, brick and concrete construction. Erected during post-war boom in anticipation of even better times.

Floor space in each building is about the same.

Equipment

For purposes of disguise it will be necessary to designate machinery by letters. Most important equipment consists of: 420 units "B"; 200 units "G"; 50 units "S"; 70 units "K"; 50 units "L"; 80 units "W." Distribution of this machinery, together with its condition, is as follows:

Building No. 1. Power house, obsolete; 20 units "B" in fair condition with some auxiliary equipment in fair physical conditon.

Building No. 2. 150 units "B" in fair condition; 200 units "G" which are obsolete; 80 units "W" in poor physical condition.

Building No. 3. 180 units "B" in good condition; 50 units "S" in poor physical condition; 50 units "K" in good condition; 50 units "L" in good condition. This building includes a fair amount of auxiliary machinery.

Building No. 4. 70 units of "B" in good condition; 20 units of "K" in good condition. In addition, practically all the new equipment of any kind (particularly auxiliary equipment) that has been purchased within the last five years has been placed in this building. Despite the fact that this is the most modern of the buildings about 50% of the space is used for storage.

It will be seen that machinery such as "B" is scattered in all four buildings. In addition, the auxiliary equipment is not logically placed and the inadequate communication between buildings makes a great deal of trucking and use of elevators necessary.

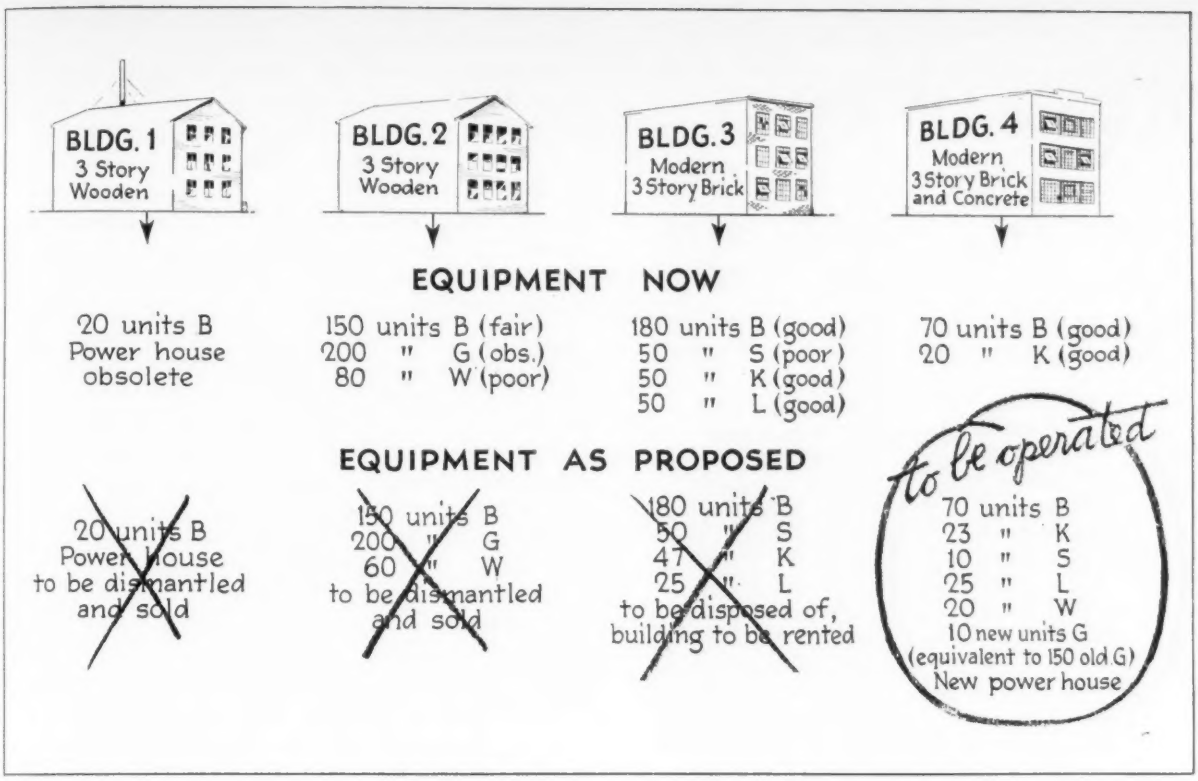
Volume

The next point of analysis is the customer accounts. Of the 60 on the books, 20 can be classed as inconsequential. Examination of prices shows that only 15 customers pay prices that give a margin over normal costs. It is to be noted that these 15 are steady customers and seldom change their source of supply. In volume the plant has not averaged over 50% of capacity for the last five years and is currently operating below that figure. Such is the situation. Despite every reasonable economy the mill cannot continue long to operate with the present set-up.

The first possibility is a greater volume of business. Machines "B" are the key. Some time ago all 420 of these units were run full over a considerable period. In order to do so, however, it was necessary to quote below-cost prices as the only large market available was highly competitive and over-produced. Because of the low prices and the extra sales expense necessary to get this competitive business, it was found that mass production of this sort helped the mill not at all.

Costs in the mill are undoubtedly high, due to antiquated machinery in places and inefficient lay-out. It might be possible to get along in the mass production field mentioned above by reequipping with modern machinery. This, however, is out of consideration, as the mill has no money with which to reequip.

Some progress has been made in developing specialties, but these have been more or less seasonal and not of sufficient volume to keep much of the plant running.



Greater volume of business with the present manufacturing set-up and present price situation, then, does not offer a way out. A real boom would solve the problem, but nothing else would raise prices enough.

If increased sales do not offer a way out, there is a possibility that decreased sales may. Looking at it from this angle, a start is made with the customers' accounts. Taking the 15 customers who pay good prices, and examining their orders over a considerable period, it is shown that they will normally keep the following machinery running: 70 units of "B"; 150 units of "G"; 23 units of "K"; 20 units of "W"; 25 units "L"; 10 units "S"; together with all auxiliary machinery now in Building No. 4 and some of that in No. 3. (Some extra machinery allowed to take care of profitable specialties.) After checking cost, it is found that a plant with this equipment would do a good business with the 15 customers as a back-log and would show fair profit.

It is obvious that if a plant with the equipment and volume of business mentioned is to make the estimated profit, the overhead must be normal for the size of the business. Overhead on the present plant is far too large for any such plan. The next step is to see what can be done to pare it down to size. The thought that springs to mind is to concentrate the machine units mentioned in one building. Because it would be difficult to move some of the auxiliary equipment out of No. 4, and because this is the best of the buildings, concentration in this building is logical. This would entail:

1. Moving the best 10 units of "S", the best 3 units of "K", and the best 25 of "L" from No. 3 to 4.
2. Moving best 20 units of "W" from No. 2 to No. 4.
3. Moving 150 units of "G" into No. 4. Here is the first snag. Units "G" are obsolete and would have to be replaced with 10 modern units.
4. Building No. 4 is a long distance from the power house and, as steam must be used in finishing this is a disadvantage. In addition, the power plant has been obsolete for years and is very inefficient. The only solution seems to be the erection of a new power plant of smaller size sufficient to take care of No. 4 alone (plus heating for No. 3 if rented).

Adding up the three items of expense, namely, moving machinery, purchasing 10 new units to replace 150 units "G", and erecting new power house, the total cost is estimated to be about 50% of the loss sustained by the company last year.

Financial Aspects

The problem now becomes one of finance. If no other means can be found to raise the funds necessary for the change it would be necessary to dismantle Buildings No. 1 and No. 2, sell what could be sold of the equipment, and then sell the property which has a fair value even in present times. Equipment remaining in No. 3 could also be disposed of; it would seem logical to wait until better times to sell the latter building, renting it, in the meantime, even if a low rate is necessary, to carry taxes, etc. It might be advisable to form a new company to handle this real estate, giving the shares to the old stockholders for their interest.

Logic leads to the conclusion that if the concern is to continue to run for long the best plan is to shrink to a size where the product can be merchandized profitably. Such a move means that the stockholders are no longer owners of a large plant, but must be content with the relatively small profits of a small plant. But—they are *profits*. The only alternative from the stockholders' standpoint is to liquidate. The present is a poor time to liquidate capital assests, and liquidation would destroy the asset of a going concern and good will. Concentration in No. 4 would mean partial liquidation with future profits fairly assured and with at least part of the real estate held for a better market.

Of the three choices—continuing operation "as is" in hopes of better times; or liquidating; or shrinking to a profitable size—the facts would seem to point to the last-named as the best course for this particular mill.

Cotton Week

Proves Big Stimulus to Retail Sales

COTTON went over the top this week in a coast-to-coast observance of National Cotton Week, and the message of cotton as a style and quality textile was carried to inestimable millions of consumers through a campaign which employed every modern method of promotion. Cotton Week this year had an advantage over the 1931 observance in that a longer period of preparation was allowed and a much more extensive campaign was formulated.

Early reports during the week indicated a sharp increase in retail sales of cotton merchandise. The event was favored in the East especially by a spell of hot weather at the start which did much to make the public cotton-minded. Retailers had planned elaborately for the week, and they linked the idea to all their promotion, including advertising, window displays and special style showings in the stores. According to an estimate by George A. Sloan, president of the Cotton-Textile Institute, which is sponsoring the observance in cooperation with numerous other organizations, about 25,000 department stores, apparel shops, drug stores, and shoe stores, grocery stores and other types, joined in making Cotton Week the occasion for a concentrated sales effort.

Radio broadcasting was a particular feature of the event, and it was a rare radio program that did not carry at least a mention of Cotton Week between Monday, when the event opened, and today (Saturday) which marks the closing. Besides all the usual promotion methods, numerous novel approaches were utilized. The newest baby of the air—television—came into the picture, and a special television program, celebrating the particular textile advantages of cotton was offered Thursday night, over the Columbia Broadcasting System, television division, by Mrs. Virginia Chandler Hall, who recently became fashion television editor of that service. References to National Cotton Week appeared on the dining-car menus of practically all the important railroads of the South and Southwest.

The success of Cotton Week in recent years has definitely established the importance of this event in the minds of both the cotton manufacturers themselves and their jobber and retail outlets. A leading feature in helping to make the drive a success was the favorable response to the Cotton-Textile Institute's appeal for funds. A sizeable fund was subscribed which permitted special Cotton Week advertising in the trade press, mail announcements, posters and other dealer-help material.

Retailers, quick to see their advantage in the event, made special arrangement in their budgets for Cotton Week; it is estimated that department stores, specialty shops and other distributors spent nearly $2,000,000 during the week and before it, in stimulating the sale of cotton merchandise. The bulk of the sum was spent for newspaper advertising.

The sponsors of the event pointed out significantly in their mid-week comments that the real value of Cotton Week lies not so much in the actual sales during the six-day period as in the great stimulus and prestige afforded cotton merchandise which will carry on through the year. It is particularly emphasized that the spirit of Cotton Week should be made a year-round spirit, and that the final worth of the event is determined by how much it is utilized to push cotton promotion throughout the year.

Mr. Sloan, summarized the event in the following statement:

"The real significance of these efforts to increase the sale of cotton goods through advertising and publicity lies in the industry-wide cooperation involved. It is made possible by the joint effort and financial support of cotton farmers, brokers, manufacturers, finishers, converters, selling agents, wholesalers and retailers. This type of cooperation affords the greatest hope for the future prosperity of the industry, and for that reason should be of the deepest interest and concern to business generally in the cotton-growing and manufacturing states."

The following organizations gave substantial support, financially and otherwise to the observance of Cotton Week: American Cotton Cooperative Association, Association of Cotton Textile Merchants of New York, Cotton-Textile Institute, Inc., Cotton Yarn Merchants Association, National Association of Finishers of Textile Fabrics.

Trade associations and special groups were warm in their approval of Cotton Week, and this cooperation among different divisions of the cotton industry was decidedly one of the important elements in contributing to the success of the event.

The Durene Association of America, which numbers nearly 90% of the country's cotton yarn mercerizers among its membership and which has done much to improve the quality of mercerized cotton, lent its support. Ernest L. Starr, director-treasurer of the association, sent a letter to retailers throughout the country, endorsing the event and urging the retailers to give it their fullest help.

Mr. Starr said quality was an integral part of National Cotton Week promotion this year because of the widespread retail desire to regain consumer confidence in merchandise in general and the equally strong feeling that high fashion acceptance of fine cotton has been a signal achievement in a period of price-slashing, plus quality-slicing in many fields.

R. B. King, New Durene President, Sees

Depression as Unifying Force

R. B. King, newly elected president of the Durene Association of America

THE tendency toward more unified national interest in certain basic industries, is one of the constructive outgrowths of the present economic crisis, according to R. B. King, secretary of the Hampton Co., Easthampton, Mass., who was elected last week to the presidency of the Durene Association of America. In a post-election statement, Mr. King emphasized the lessons of the present situation. He suggested that the present era was "a period of readjustment" rather than "a depression," and added that "out of these often painful readjustments vital new perspectives are indisputably growing."

"Out of troubles—national or personal—larger perspectives should grow," Mr. King said. He went on to point out that this is happening in America today, and that it is especially evident in certain American industries and their supporting public. "Looking at the situation in this broader way," he said, "does not, of course, nullify the real difficulties that are assailing business and having to be met."

Citing the trend toward industrial unity as a significant step forward he emphasized the cooperative work done by the Durene Association toward quality maintenance in the mercerized cotton division.

He added: "Today newspapers in all parts of the country are enthusiastically reporting and editorially stimulating National Cotton Week. We in the Durene industry have been greatly impressed with the fine editorial support being given the quality maintenance program of this industry; and the excellent way in which fine cotton is being welcomed and identified."

Mr. King was elected at the annual meeting of the Durene Association which was held May 12, at the association's New York offices. He succeeded J. S. Verlenden as head of the association. Mr. Verlenden is president of the Standard - Coosa - Thatcher Co., Chattanooga.

Ernest L. Starr, director-treasurer of the association, submitted his semi-annual report, which included a program of activities for the next several years. In comments at the meeting, members expressed satisfaction in the progress made by the association, pointing out that the work laid out on the basis of a five-year job, had been accomplished in about half that time.

Mr. Starr told of the steps taken by the association to maintain Durene standards in the mercerized yarn field, and described the strong service campaign of merchandising, styling and educational assistance which has been carried on by the organization. Among points cited by him were the fact that the association membership totals nearly 90% of all mercerized cotton produced in the country; he added that the various trade factors receiving assistance of the association include knitters, weavers, ready-to-wear and accessory manufacturers, jobbers, wholesalers, group buying offices, department stores and specialty shops. The director-treasurer said particularly success had marked the campaign to win quality acceptance for the name "Durene," and that fabric and garment manufacturers have come to accept this name as an identification of quality."

In presenting his report Mr. Starr said:

"The popularity of cottons is regularly increasing, and Durene is effectively participating in this situation. Leading retailers in every part of the country are today consistently preparing themselves to satisfy this popular interest in better cotton goods. During the last fortnight alone 61 important retail stores in as many separate cities presented Durene merchandise to their consumers through their own display advertising. Many manufacturers are crediting Durene fully in their announcements to the trade and the general public. Similarly wholesalers, buying offices and retails are accepting the Durene idea and passing it on to trades they serve."

Mr. Starr pointed out that all the activities of the association merge into practical merchandising, and stimulate the development or acceptance of more and finer Durene products. Hundreds of sales leads are furnished monthly to manufacturers of Durene merchandise, he said. These leads come from all the manufacturers' different customer classifications.

Among those present at the association meeting were: Mr. King; Mr. Verlenden; Hugh McConnell, vice-president, Hampton Co., Easthampton, Mass.; J. P. Holt, general manager, and E. L. Dale, sales manager, Aberfoyle Mfg. Co., Philadelphia; C. W. Johnson, president, Johnson Mills Co., Charlotte, N. C.; Arthur M. Dixon, vice-president, American Yarn & Processing Co., Mt. Holly, N. C.; J. B. Frierson, Jr., vice-president, Dixie Mercerizing Co., Chattanooga, Tenn.; Clarence L. Meyers, president, Clarence L. Meyers, Inc., Philadelphia and C. R. White, Washington, D. C., secretary, the Durene Association of America.

Constructing Plain and Fancy Marquisette Fabrics

By
Thomas Nelson
Dean, Textile School,
North Carolina State College

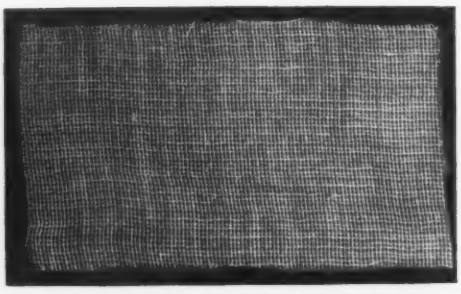


Fig. 1. Basic weave upon which marquisette designs are imposed

WITHIN the last few years there has been a considerable quantity of marquisette fabric placed on the market. Extra filling figures in a variety of effects lend interest to the more fancy weaves of this group.

The simplest marquisette fabric is illustrated at Fig. 1. This weave is also known as the gauze weave, and is diagrammatically sketched at Fig. 2. The thread marked *A* is the crossing thread, while the thread marked *B* is the standard thread. The principle of this and other leno weaves is that of crossing certain threads from one side of the standard thread to the other side and back again.

The method of obtaining this weave is by using a steel doup heddle in connection with the regular harness shaft. Figs. 3, 4, and 5 are presented to assist the reader in obtaining a clear understanding of the method of obtaining this effect. The letters in the illustrations represent the different harnesses as follows: *A*, cross-doup heddle; *B*, open-doup heddle; *C*, doup needle; *D*, yoke attached to doup needle rods which is pulled down by spring *E*; *G*, spring or compensator rod. Fig. 3 illustrates the normal position of the harness. Crossing thread *I* passes under the compensator rod *G* and through the doup needle; standard thread *K* passes through standard harness *F* and between doup heddles. Fig. 4 illustrates the first chain or "open" pick. The open-doup heddle raises the doup needle, which in turn raises the crossing thread on the right-hand side of the standard thread.

Fig. 5 illustrates the second change or "crossed" pick. The cross-doup heddle raises the doup needle, which in turn raises the crossing thread on the left-hand side of the standard thread. These two picks complete the pattern, and it should be noted that the standard harness *F* has not been raised.

Fig. 6 illustrates the drawing-in draft for Fig. 1, and shows the method of drawing in the threads for a right-hand doup. The chain plan showing the operation of the doup and selvage is illustrated at Fig. 7.

Fancy marquisette fabrics are made in spots, checks, and all types of unusual effects on a plain marquisette ground. Soft-twisted, heavy filling or roving is used for these spots and fancy figures. The fabrics are always woven face down in the loom, with the extra filling float-

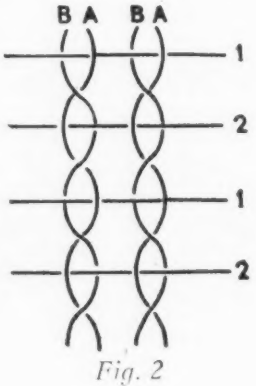


Fig. 2

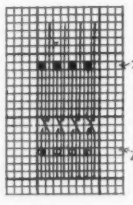


Fig. 6

Fig. 7

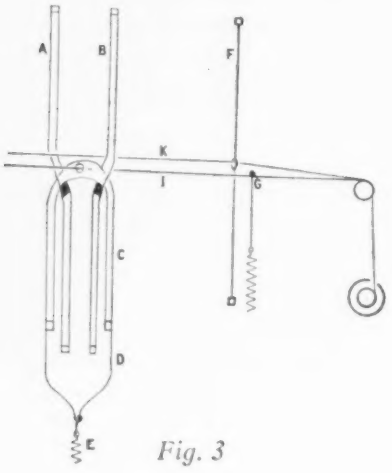


Fig. 3

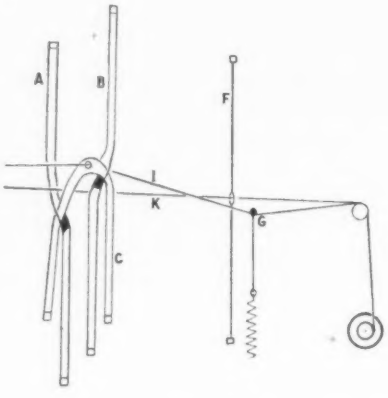


Fig. 4

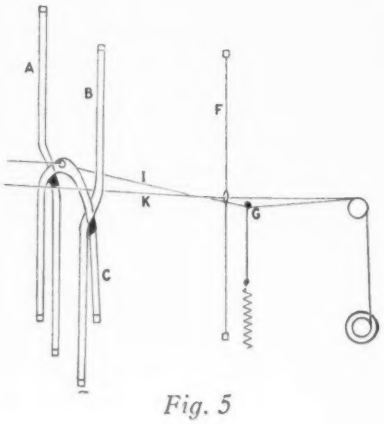


Fig. 5

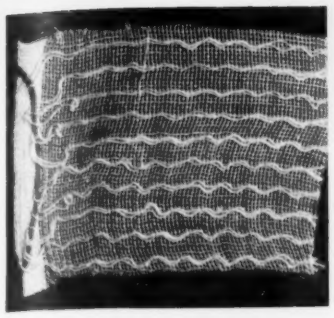


Fig. 8. Back of fabric shown in Fig. 9

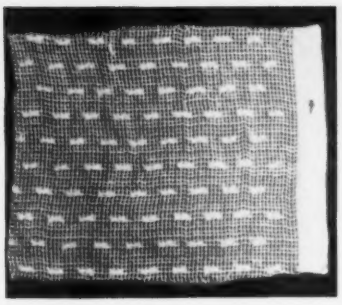


Fig. 9. Simple spot effect (face)

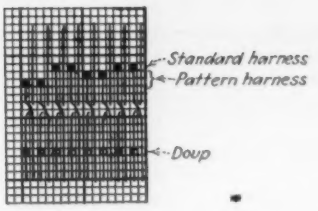


Fig. 10

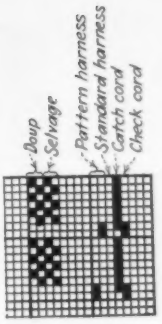


Fig. 11

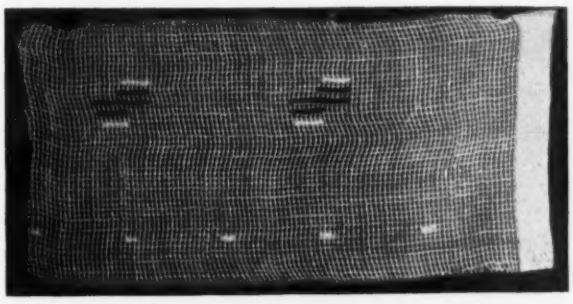


Fig. 12

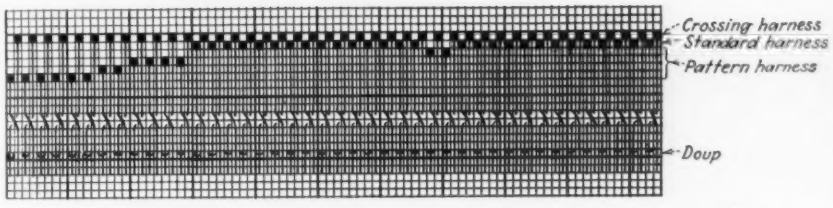


Fig. 13. Draft for fabric shown above. Chain plan at right

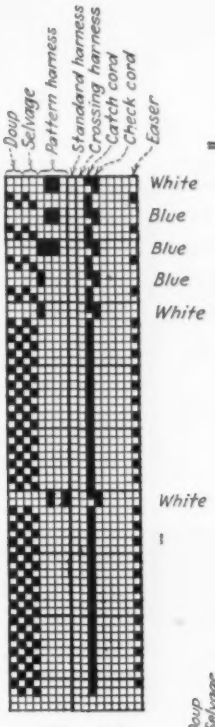


Fig. 14

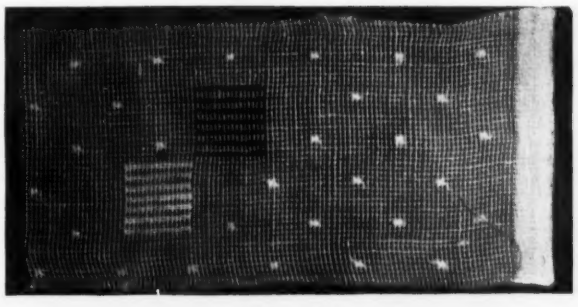


Fig. 15

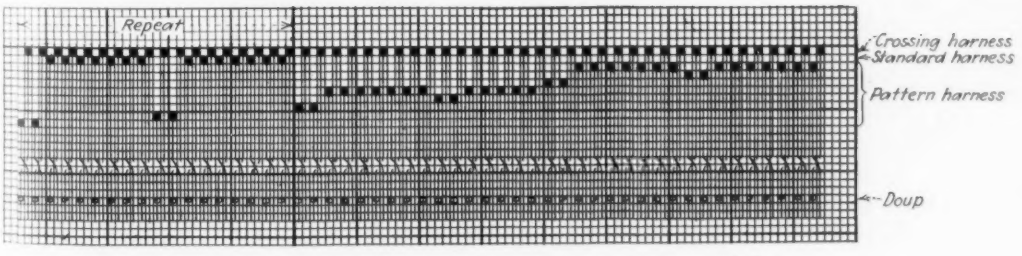


Fig. 16. Draft for fabric in Fig. 15. Chain plan at right

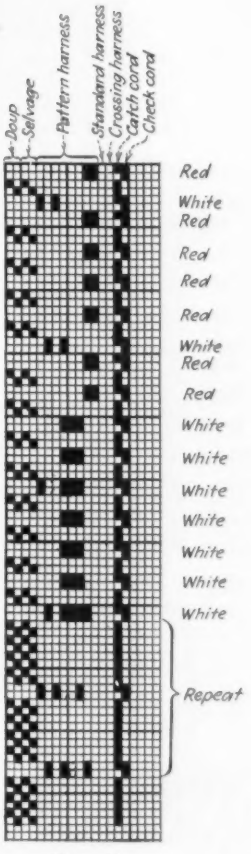


Fig. 17

ing on the top of the fabric. This method eliminates heavy lifts of the harness, but makes the weaving of the fabric somewhat difficult for the weaver, as the floating filling will cover up defects which would otherwise be seen. A drop-box loom must be used when making these fabrics because of the various kinds of filling used.

One of the simplest spot effects obtainable is illustrated in Figs. 8 and 9. Fig. 8 shows the fabric as it is woven in the loom, with the extra filling floating on the top of the cloth; while Fig. 9 shows the fabric after the extra filling has been sheared from the surface. A catch cord is used to hold the extra spot fillings outside

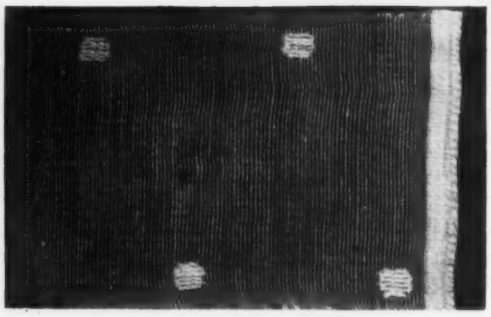


Fig. 18

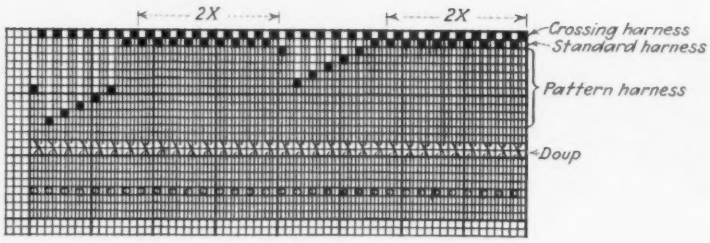


Fig. 19. Drawing-in draft for Fig. 18. Chain plan is shown at Fig. 20

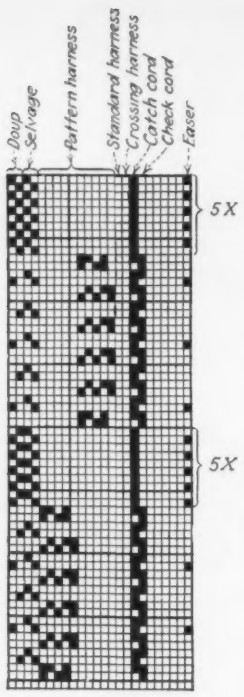


Fig. 20

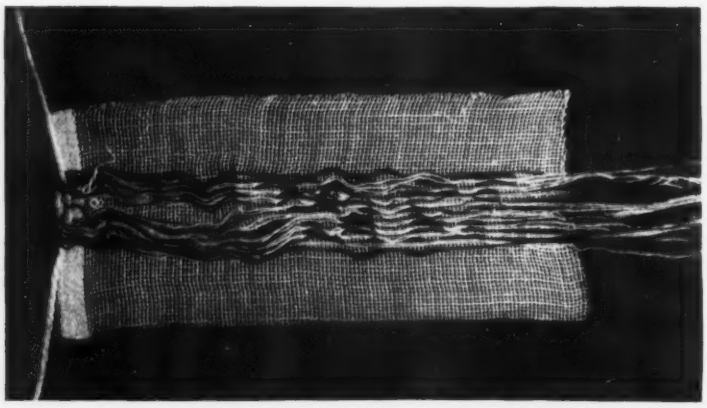


Fig. 21. Butterfly pattern. Back of fabric

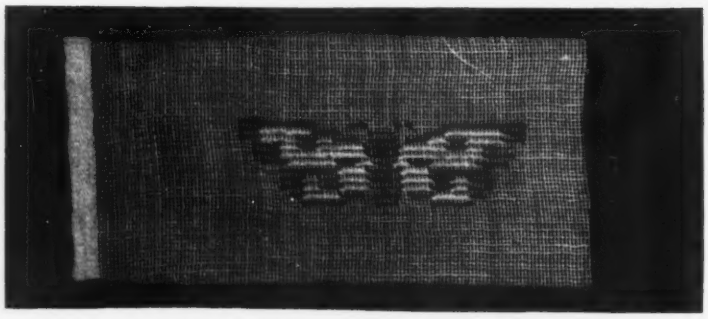


Fig. 22. Butterfly pattern (face)

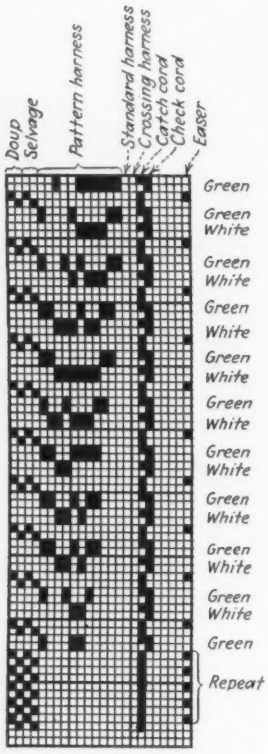


Fig. 24. Chain plan for fabric at left

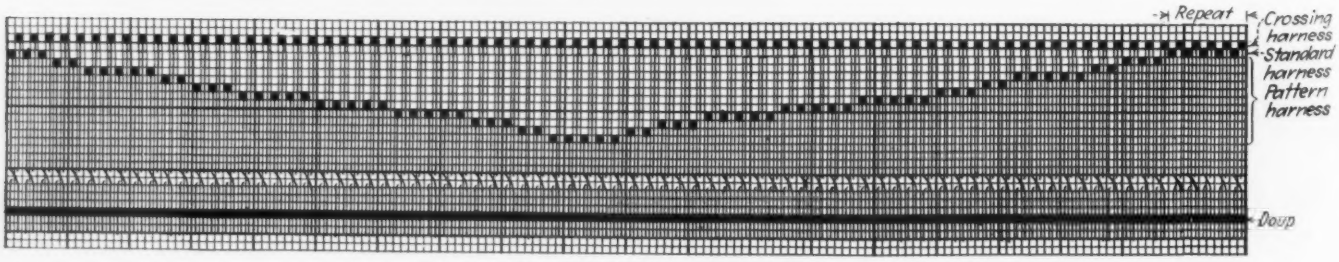


Fig. 23. Drawing-in draft for fabric illustrated above

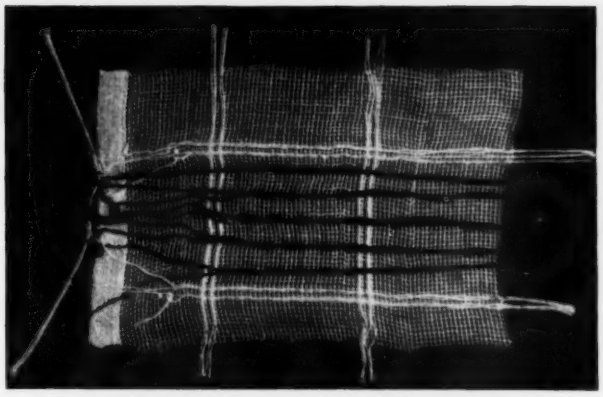


Fig. 25. Back of fabric shown below

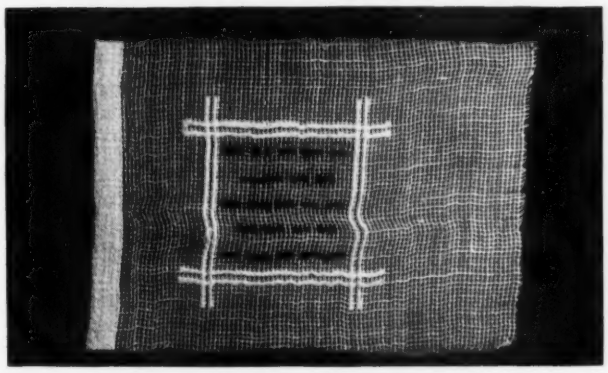


Fig. 26. Fabric with extra cords in addition to extra filling

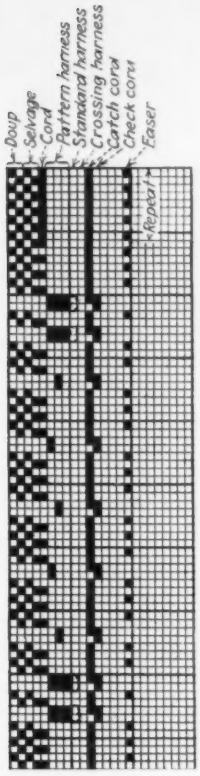


Fig. 28
Chain plan

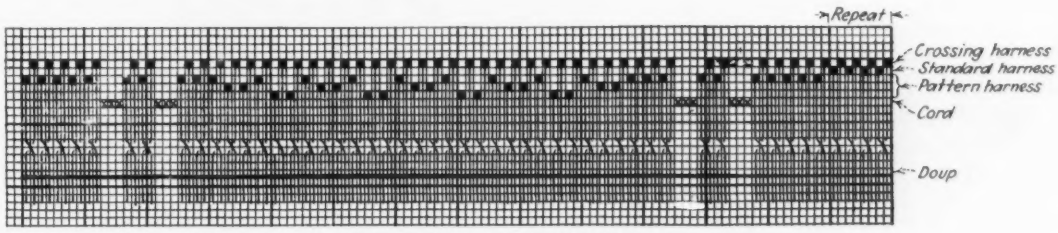


Fig. 27. Drawing-in draft

the selvages of the fabric. This cord is drawn through a heddle on a separate harness shaft and is kept raised except when the extra filling is being inserted. Three or four dents are left empty between the cord and the outside selvage threads of the fabric. Before shearing, this cord (Fig. 8) is pulled away from the fabric.

In weaving these fabrics the take-up motion is stopped when the extra picks are being inserted. This is accomplished by connecting the pawl on the take-up motion to one of the harness levers by means of a cord. This harness lever is raised when the picks are being inserted, and it should be remembered that the cord should not be fastened to the driving pawl, but to the check pawl.

The pattern is made by raising the "pattern" harness when the extra filling is being inserted. These pattern harnesses operate in the same manner as the standard harness when the pattern is not being made and are not raised by the dobby except for the figure. Fig. 10 illustrates the drawing-in draft; and Fig. 11, the chain plan for fabric shown in Fig. 8. The crossing harness is not used, the crossing thread passing under the spring roll.

Colored Patterns

White and blue filling threads are used for the figure in the fabric illustrated at Fig. 12. The drawing-in draft and chain plan for this fabric are illustrated at Figs. 13 and 14 respectively. It should be noted that the crossing harness has been used in place of the spring rod. In the chain plan, the easer is used to slacken the threads on the crossed picks. A 4x1 box loom will be required for this pattern, as there are three different kinds of filling employed, fine white filling being used for the ground fabric, and blue and white rovings for the spot filling.

A fabric with alternating block patterns of red and white with small effects dotted all over the fabric is shown in Fig. 15. The drawing-in draft and chain plan are represented in Figs. 16 and 17 respectively. The crossing and standard harnesses have been used, but the easer has not been operated. It will be noticed that in Figs. 12 and 15 two picks of fine filling have been inserted between each pair of coarse filling threads in the pattern.

In Fig. 18 a fabric is illustrated in which but one fine pick has been inserted between the coarse filling threads. The fabric is made on a drop-box loom, and two picks are inserted before a change of shuttle box can be made. One of the two fine picks, therefore, is not inserted in the fabric, but floats on top, the floating filling being sheared off the fabric with spot filling. Fig.

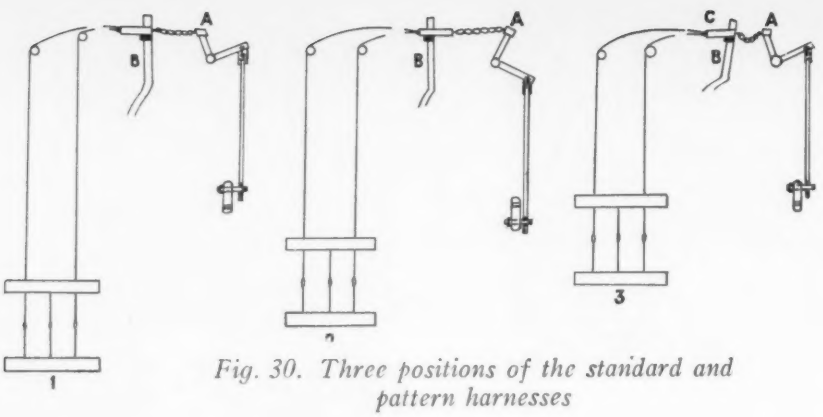


Fig. 30. Three positions of the standard and pattern harnesses

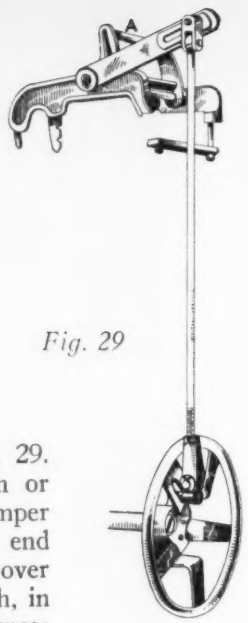


Fig. 29

19 illustrates the drawing-in draft and Fig. 20 the chain plan, using crossing harness and easer.

A "butterfly" pattern is illustrated in Figs. 21 and 22. The former shows the fabric as it is woven in the loom, and the latter shows the effect obtained after shearing. The drawing-in draft and chain plan are shown at Figs. 23 and 24 respectively, crossing harness and easer being used.

Figs. 25 and 26 illustrate another type of fabric, in which extra cords are introduced in addition to the extra filling. The appearance of the cloth as it is woven in the loom is shown in Fig. 25, while the finished effect produced by shearing is shown in Fig. 26. Figs. 27 and 28 represent the drawing-in draft and chain plan respectively, crossing harness and easer being employed. It should be noted that where the crossing thread is drawn through the crossing harness, the latter could have been raised on an open pick if so desired. When an easer rod is used in preference to a spring or compensator rod, it is raised on the cross pick. The catch cord for the extra filling can be placed immediately following the selvage harness if desired.

Jumper Motion

A jumper motion driven from the crankshaft of the loom and used in weaving fancy marquisettes and other lenos is illustrated at Fig. 29. One end of a small chain or strap is attached to the jumper knife at *A* and the other end to a loop which operates over the harness lever and which, in turn, is connected to the harness shaft through harness cords.

Fig. 30 illustrates three positions of the standard and patterned harnesses. These are numbered 1, 2, and 3. In each illustration *A* represents the jumper, which is connected to the harness as above described. *B* represents the harness lever. At position 1, the standard harness is at its lowest position, or at the bottom of the shed; and at 2 the jumper has been pulled out, and the harness is represented as being raised half way in the shed. This action is repeated on every pick, as the motion is driven from the crankshaft. At 3 the jumper is in its original position, but the harness lever has raised the harness shaft for the full shed. This is done when the pattern is being made and the extra filling inserted. The small connecting chain or strap hangs loose on these picks. The loop *C* is set full against the harness lever when the harness shaft is at its lowest position, so that there will not be any lost motion when the harness shaft is raised.

◆

The Passing of George A. Walcott

THE sudden and tragic passing of George A. Walcott, vice-president and chairman of the board of the Hunter Mfg. & Commission Co., last Monday, was a shock to the entire cotton goods industry. In a spell of despondency, Mr. Walcott shot himself at his home at 885 Park Ave., New York. He had been suffering from the mercantile worries that have beset all in the cotton goods business and it was evident to his close friends that the strain had been telling on him for some time.

In announcing the death of Mr. Walcott, the officers of the Hunter company stated that for some time they had noticed with profound distress that Mr. Walcott had shown signs of exhaustion largely as the result of the added burden of his participation in efforts to correct the situation in the textile trade. The official statement further said: "Reference has been made to his personal losses. His associates and close friends know that there had been some reverses, but they are relatively small and do not involve the Hunter Mfg. & Commission Co. in any way."

Mr. Walcott was born in Cambridge, Mass., in 1871. On graduating from Harvard in 1893, he entered the employ of Noyes, Bausher & Gerrish, dry goods commission merchants. This firm then acted as selling agents for the Amoskeag Mfg. Co. In 1913 he left this company to act as receiver for the firm of G. A. Stafford & Co. On the successful completion of that work, he joined the Hunter Mfg. & Commission Co. as assistant to the late R. E. Reeves. He succeeded Mr. Reeves as chairman of the board on Mr. Reeves' death in 1926. Mr. Walcott was prominently identified with the merchandising of Hunter's gray goods which, it is said, approach 25% of the industry's total production. He was active in the recent cooperation between merchants, mill men and buyers, aimed at the stabilization of the gray goods market.

Among the many tributes paid Mr. Walcott by other leaders in the trade, George A. Sloan, head of the Cotton Textile Institute, said "His passing comes at a time when his influence was proving highly effective in encouraging sound cooperation. During the past year, particularly, he had given untiring attention to the broad problems of the industry."

Mr. Walcott was a member of the Merchants Club, the Association of Cotton Textile Merchants, Harvard Club, and others. He is survived by his widow, two sons, and a daughter. One son, Roger, is employed as a salesman by the Hunter company.

Analytical Reasoning Can Be Applied to Textile Operations

By Earle L. Milliken

MANY industries suffer from the acceptance of "half truths." The older the industry the more the inclination to rely on the judgments of those of long experience in it, whether or not these are based on incontrovertible facts. The more prosperous an industry, the less the urge to get down to fundamental principles. Let adversity hit such an industry through competition or business depression and it has to revise and refine its methods if profits are to continue. It must rebuild on a basis of facts and figures. Too often the opportunity offered of accumulating these over the years of prosperity has been lost.

Someone has rightly said that the scarcest thing in the world is accurate information. Certainly in the textile industry, with the multiplicity of materials and operations entering into a finished product, the opportunities for error in fundamental data entering into costs are legion. When the operating personnel has little training in the use and value of data and facts, it may well be hard to get at the truth. What has already been done is a credit to the industry, but much more could have been done which would have helped through the recent years of depression.

Lack of complete and accurate information leads to snap judgments. If the law of probability applies, such judgments will be right 50% of the time, but in the remainder of the time they have undoubtedly cost the industry much in profits.

There seems to be a tendency in some parts of the industry to respect the most the man who can glibly reel off figures of production and costs. Too often these figures are used as a basis of decision without checking or questioning their accuracy, and data based on inaccurate records is worse than useless.

Expenditures required to set up adequate mill records are sometimes looked upon as wasted. "Figures" have too often been considered the province of the cost and accounting departments. All production figures and other data based on production can be only as good as the data kept and given by the production departments.

Greater effort to "dig out" the truth brings returns. Frequently we hear that this or that plant is operating so many units per operative. This is not a true common denominator. Neither is a $20 wage rate alone a basis of comparison unless we know what is obtained for it.

We must know what is the production per machine and in the last analysis the quality produced. The operative's wage, divided by the units produced of equivalent quality, alone can give the true picture of efficiency. Comparisons on any other basis are unfair and misleading.

These statements are such simple truths that one cannot but marvel at instances where they are ignored.

Back of the acceptance of misleading statements many times is the wish which is father to the thought. If an item cannot be made in a plant at a cost to sell at a profit on the current market, self-justification prompts the sales organization to accept a gossipy statement that so-and-so is running so many more machine units per operative and promptly hammer the production department because it is not equaling this "reported" achievement.

Time studies have demonstrated that the old method of basing piece-rates is unfair and unequitable either to employers or to the employed. In general it is the employee who has been favored because rates have been based on past performance and an averaging of the good, average and poor operatives. Such an average accomplishment is bound to be lower than the fair and to-be-expected output based on time studies. Time studies simply do to mill operation what market studies do to sales outlets—break each operation down into its elements and then build up a standard or a budget based on analyses combined as an ideal and attainable unit.

The more complex the operation the greater the need for time studies. Wide variations in earnings of operatives mean either inequitable piece-rates or the employment of low producers. Equalization of rates through time studies is essential before steps can be taken fairly to weed out low producers. The savings due to increased average production per operative resulting from this procedure will be very substantial where rule-of-thumb methods of fixing rates have been in vogue. Reduction of wages in times of stress has been an easy, but not always the best, way to reduce costs. Incentive wage scales based on careful time studies are bound to be the most economical in the end, and lead to less friction. Convince the worker that rates are based on sound reasoning and more work will come out. It is unfair that good workers should have their rates held down in order to overpay those less efficient.

The manufacture of rayon is perhaps the nearest to being completely governed by engineering practice of any branch of the textile industry. Were rayon yarns made with as little "red tape" and control through recorded results as exist in some other branches of textile work, rayon would not be the dependable product it is.

Yet many users of rayon fail to record adequately and observe analytically its performance while being fabricated. When trouble has occurred, they have tried to saddle the responsibility on the maker or on the finisher or both. When faced with a "fight to the finish" in the matter of a claim, the user of rayon is seldom able to present a convincing case when adequate records and checkups of tensions, speeds, room humidification and temperatures are involved—and they are usually of prime importance.

Nothing but adequate records kept up-to-date, permitting moving averages over long periods, can act as the constant check needed on production and production personnel. With diminishing profits there is no place for the old methods of "trial and error." Production figures in the end are translated into dollars and errors in these figures into ultimate losses.

Too often with a change in personnel, accumulated and valuable data goes out the *(Continued on page 37)*

High-Intensity Illumination Is Significant Trend in Textile Mill Lighting

By W. S. Hadaway

Commercial Engineering Dept., Westinghouse Lamp Co.

SINCE manufacturing procedure in silk, cotton, and wool mills is much alike, accounting for a similarity in machinery design, the lighting requirements are practically the same. In every step, from opening and sorting to the finished product, the lighting must be designed to comply with the demands of human eyes. How well can the worker see? Is daylight so poor as to make supplementary artificial light necessary during working hours? Are seeing conditions good enough that waste effort, lost time, and frequency of accidents remain at a minimum?

One of the most hopeful signs in modern industrial lighting is the trend to higher intensities. High-intensity illumination, as long as the distribution and glare of light remain under control, will improve seeing conditions in any industrial procedure, principally because it will assure maximum vision for workers. Speed, accuracy, and efficiency naturally follow.

Foot-candle intensities recommended for textile mills vary with the particular type of work. They are:

Foot-Candle Intensities for Textile Mills

Type of Work	*Recommended Practice*
Carding; Picking; Washing; Combing	6
Dyeing	8
Spinning; Warping	
Light Material	
Dark Material	8
Drawing In	15
Weaving—	15
Light Material	
Dark Material	8
	15

To obtain these intensities correctly, the lamps must be of specific wattage and the reflectors must be mounted on recommended spacings and at definite heights. A lighting system will not continually produce its original intensity unless it is maintained in clean condition.

The RLM Standard Dome, porcelain enamel, steel reflector enjoys a wide use for industrial lighting, and has an open bottom. Reflectors of this type vary in size according to the wattage of the lamps used, the size being measured in inches across the mouth of the reflector. The sizes most commonly used and their corresponding lamps are:

Reflector Size	*Lamp Wattage*
12 in.	100
14 in.	150
16 in.	200
18 in.	300

White bowl or frosted lamps, which have the lower half of their clear glass bulbs coated with white paint or frosted, should be used with the RLM reflector because they give better diffusion of light. When clear-bulb lamps are used, the bright glare of the concentrated light source has a blinding effect on the eyes of workers. Eye strain often follows and sometimes becomes so acute that it interferes with accurate and quick seeing. The work may then suffer.

Some plants today are using a type of reflector known as the Glassteel diffuser instead of the RLM. It is an enameled-steel reflector white inside and outside, and is like the RLM in shape, but larger. Inside of the reflector is an enclosing globe of diffusing glass. Through several small openings in the top of the reflector, light passes upward to the ceiling where it tends to remove the impression of heaviness of overhanging darkness. At the same time it improves the mass brightness of general illumination. Enclosing globes improve the general appearance of the lighting installation and are free of practically all objectionable glare. They also give better diffused light, which improves the quality of illumination; and as the quality of light improves, so do seeing conditions.

In the descriptions of various lighting requirements which follow, recommendations specify standard-dome, enameled-steel RLM reflectors and white-bowl Mazda lamps. Mounting heights are measured from the floor to bottom of reflector.

Initial Textile Operators

The character of the work in the initial steps of textile manufacture is such that the demands upon the worker's eyes are not so strenuous as farther on down the line. Therefore, a general illumination of approximately 6 foot-candles is sufficient for sorting, washing, and carding. On some days when the sun is shining brightly daylight illumination is ample, but artificial lighting should always be held in readiness when dark clouds pass in front of the sun and lower the intensity of daylight inside the building until the work is difficult to see.

In carding, where the nature of the material being worked is not so fine that it requires constant supervision, a moderate illumination of 6 foot-candles meets the demands of vision. Good distribution of light is much more important. Reflectors mounted 10 to 12 ft. above the floor, spaced 10 ft. apart, and equipped with 150-watt lamps give even light spread over the cards.

For the operation of combs and gill boxes localized general lighting is recommended. General lighting has the reflectors mounted on regular spacing irrespective of the location of the machines. In localized general lighting the reflectors are also mounted on regular spacings, but in such a way that each reflector is more nearly suspended over a comb or gill box. Thus the brightest light of each

BEFORE—*Local lighting on looms creates a twilight zone condition and increased likelihood of defective material passing through unseen*

AFTER—*Same room with general illumination of RLM reflectors and 150 watt white bowl lamps is free from shadows and has a cheerful atmosphere*

reflector actually falls on the point where the operator's attention is centered.

Standard reflectors equipped with 150-watt lamps and mounted 10 ft. above the floor, will produce an average of 6 foot-candles, which is considered adequate for this process. The accompanying diagram illustrates the method of spacing the reflectors; namely, two rows mounted in stagger fashion with individual units being directly above the combs.

With roving frames, the brightest light should fall on the front of the machine where the operator always watches. Reflectors and 150-watt lamps should be mounted 10 ft. high, spaced 12 ft. apart along the length of the rollers, and mounted in rows running directly over the center line of each roller. If the machines are back to back, staggering the reflectors will distribute the light so that the front of each frame receives ample illumination.

Lighting of Spinning Frames

Because the operators of spinning frames must use their eyes constantly and often under great strain, they need high intensity lighting, particularly when spinning colored yarn. The light should be distributed evenly over the entire working area since the girls do not stand in one spot but keep moving up and down the aisles always watching for broken ends. With high-intensity lighting, distributed well, the operators and foremen can see broken ends at a distance of 10 to 15 ft. High production efficiency may thus be maintained.

Since ring spinning frames are usually placed in rows, they may be illuminated with an even spread of light by staggering the reflectors. Light from each reflector builds up the illumination between those in the adjacent row. The reflectors should be mounted 10 ft. above the floor and spaced 12 ft. apart, with each row running directly above the center of an aisle. When spinning white wool or cotton yarn, 150-watt lamps give satisfactory lighting, but for colored or silk yarn 200-watt lamps give the extra intensity which makes seeing quicker and more accurate.

The time required to repair broken ends on mules may be shortened with good lighting. If the reflectors are equipped with 150-watt lamps and mounted 11 ft. above the floor in rows running directly over the center of travel of the mules, they will give satisfactory lighting. By spacing the reflectors 17 ft. apart in each row and following a staggered system of mounting the light is more evenly distributed. This arrangement enables an operator standing at one end of a mule to observe broken ends at a glance as they occur here and there over the machine.

Eliminate Shadows on Spoolers

Evenly spread light on spoolers eliminates the shadows cast on the spools by the operators or parts of the machines. Often an operator throws her own shadow on the work. If it moves across the work all day long, a shadow soon becomes annoying. It has a tiring effect on the operator's eyes and may impair vision enough to lower her alertness.

Good lighting for spoolers has the reflectors mounted in rows 10 ft. above the aisles and mounted on 8 ft. spacing. Since they are spaced so closely together, 100-watt lamps will give adequate intensity here. With the reflectors mounted over each aisle, practically all shadows of machine parts are removed. Likewise the operators are not so likely to work in their own shadows as the

close spacing of reflectors tends to wash out all shadows.

In operating warpers, there should be high-intensity lighting directly above the creels where accuracy in threading depends upon good seeing. To get this light directly on the spools and yarn, the reflectors, equipped with 150-watt lamps, should be mounted 10 ft. above the floor in rows running directly above the small or front end of the creels. Reflectors should be spaced midway between machines as indicated in the accompanying diagram. When colored or fine silk yarn is on the machines, use 200 instead of 150-watt lamps so as to get the added illumination which aids accurate seeing.

The delivery end is the important part of a slasher from the standpoint of lighting. The reflectors should be equipped with 150-watt lamps and mounted 10 ft. high directly above this part in order to insure good vision for the operators as they work.

Drawing-In Department

The drawing-in department, perhaps more than any other in the textile mill, requires a high intensity lighting. Even an intensity of 20 foot-candles is not too high.

In some mills today small reflectors are attached to each drawing-in frame. This practice is not satisfactory because the resultant illumination is spotty, the general effect throughout the working area being alternate dark and light spots. Also the reflectors are always getting in the line of vision, and the operators must take time out now and then to adjust the reflectors so that they will direct lighting onto the actual working area. Evenly spread light over the entire working area is far more satisfactory from the standpoint of eye comfort. Not only will it give better illumination on the frames, but also a more cheerful atmosphere in which to work.

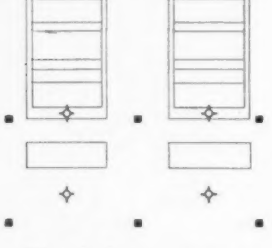
Correct light for the drawing-in department may be had by equipping the reflectors with 300-watt lamps and mounting them 10 ft. above the floor on 8 to 12-ft. centers. If the floor space is divided into bays, there should be four reflectors per bay. Glassteel diffusers might well be used in the drawing-in department since they reduce glare so well and better diffuse the light.

Close supervision so necessary in the operation of looms calls for good illumination. Good lighting on the front of the loom enables the operator to notice defects in the cloth as soon as they appear. Plenty of light back of the loom and on the healds also shows up broken ends quickly.

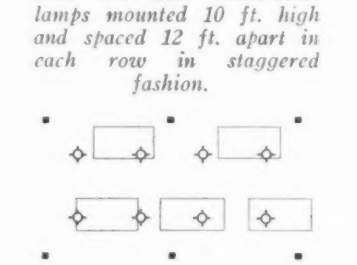
The reflectors for lighting the front of looms should be equipped with 200-watt lamps and hung 10 ft. above the floor in a row 30 in. from the center line of the machine. Another row of reflectors equipped with 150-watt lamps should be suspended 10 ft. above the floor back of the looms, also offset 30 in. from the center line of the machine. Staggering the reflectors in this fashion directs the light onto the surface of the cloth and warp at an angle which makes it easier to observe defects.

To install standard lighting equipment in a textile mill is the first essential of good illumination. To operate it efficiently is of equal importance.

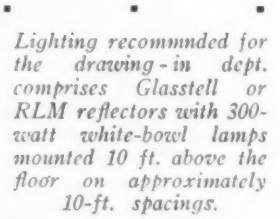
The primary requisite of efficient operation is to burn all lamps at their rated voltage. Mazda lamps are designed to operate most efficiently when burned at the voltage marked on the lamp. If the lamp is operated at 10% under voltage, the wattage is reduced only 15%, but the loss of illumination is 30%. For example, if a 100-watt, 120-volt lamp is operated at 108 volts, it will



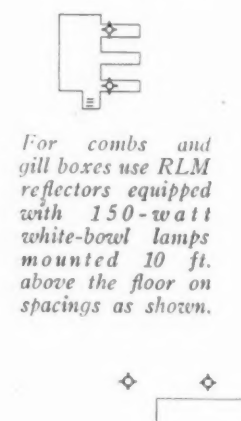
The slasher room may be lighted with RLM reflectors with 150-watt white-bowl lamps mounted 10 ft. above the floor directly over the combs, starch tank, and rolls.



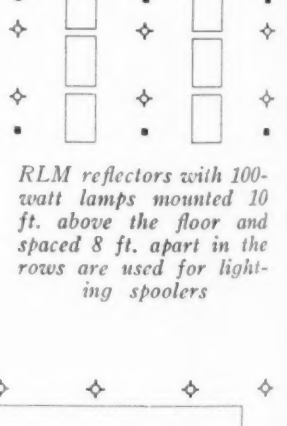
Roving frames may be lighted with RLM reflectors with 150-watt white-bowl lamps mounted 10 ft. high and spaced 12 ft. apart in each row in staggered fashion.



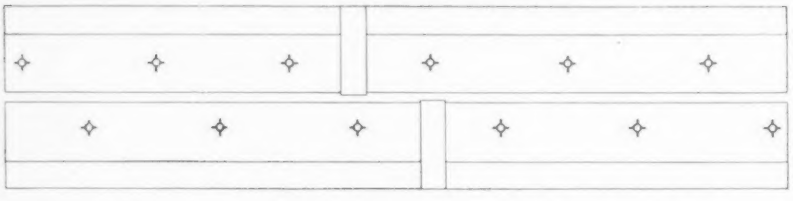
Lighting recommnded for the drawing-in dept. comprises Glasstell or RLM reflectors with 300-watt white-bowl lamps mounted 10 ft. above the floor on approximately 10-ft. spacings.



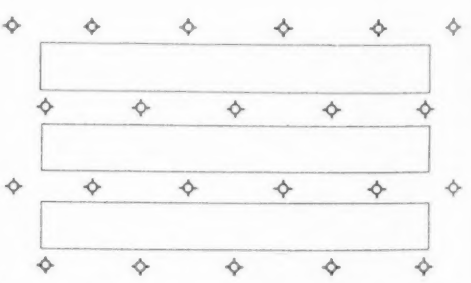
For combs and gill boxes use RLM reflectors equipped with 150-watt white-bowl lamps mounted 10 ft. above the floor on spacings as shown.



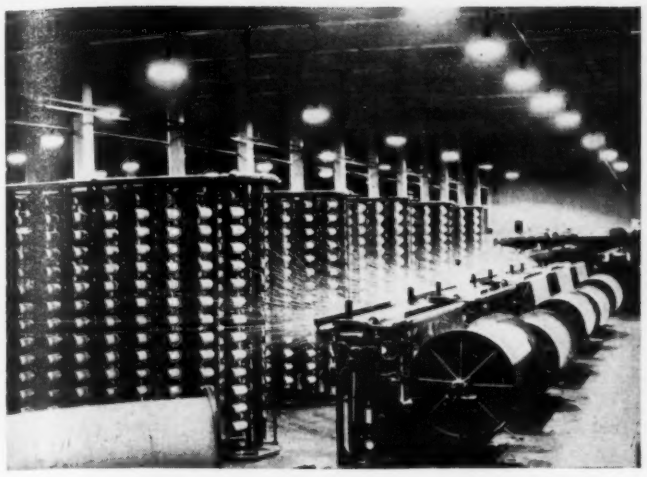
RLM reflectors with 100-watt lamps mounted 10 ft. above the floor and spaced 8 ft. apart in the rows are used for lighting spoolers



RLM reflectors with 150-watt white-bowl lamps mounted 11 ft. above the floor and spaced 17 ft. apart in rows are recommended for lighting mules.



Correct lighting of ring spinning frames may be had with RLM reflectors with 150-watt white-bowl lamps mounted 10 ft. above the floor and spaced 12 ft. apart in rows.



Adequate lighting for warpers may be had with RLM reflectors equipped with 150-watt white-bowl lamps mounted 10 ft. above the floor and spaced 12 ft. apart

Spoolers lighted with RLM reflectors and 100-watt lamps mounted 9ft. above the floor and spaced 8 ft. apart in rows over aisles to throw the light on the working plane

consume 85 watts, but it will produce only as much light as a 75-watt, 120-volt lamp burned at 120 volts.

Three ways by which lamps are generally operated under wrong voltage are: (1) using the wrong voltage lamp; (2) an excessive voltage drop due to improper wiring; and (3) poor voltage regulation, sometimes occurring when power is obtained from a private plant; this can be improved by the installation of a feeder voltage regulator.

Mazda lamps are made in three standard voltages, namely, 110, 115, and 120. The lamp having that one of the standard voltages which most nearly corresponds to the existing socket voltage in the mill, should be used for lighting in all departments.

If the wiring cannot carry the load without an excessive voltage drop, the lamps located near the source of power supply will probably operate at a considerably higher voltage than those near the end of the run. With inadequate wiring, it is practically impossible to select a standard voltage lamp which will operate at its labeled voltage in all locations. And it is inadvisable to use lamps of two voltage ratings in the same plant, since it necessitates carrying a double stock, which in turn introduces the danger of mixing. Where there is an excessive voltage drop, it indicates a power loss in the wiring and should be corrected.

In localities where 15-ampere (1650 watts at 110 volts) fusing of branch circuits is permitted, the loading per circuit of the initial installation for an industrial interior should not exceed 1000 watts.

Selecting Wire Sizes

No less than No. 12 B & S gage wire should be used either for runs from panel board to the first outlet or for runs between outlets. For runs of 50 to 100 ft. from the panel board to the first outlet no less than No. 10 B & S gage wire should be used and no less than No. 12 B & S gage between outlets.

When runs from the panel board to the first outlet exceed 100 ft., add to or relocate the panel board, wherever possible. If excessively long runs cannot be corrected in this manner, limit the initial lamp load to 600 watts for each circuit and use wire not smaller than No. 10 B & S gage between the panel board and the first outlet.

Panel boards should contain a minimum of one spare circuit position for every five or six active circuits. In general there should be at least one panel board on each floor of the building. Good practice also locates panel boards so as to avoid branch circuit runs of more than 100 ft. to the first outlet.

In localities where 15-ampere fusing of branch circuits is permitted, the feeders should be of such size that the voltage drop from the source of supply to the panel board will not exceed 1½% with a load of 10 amperes at 110 volts on every branch circuit in use, including spares. Sometimes local electrical ordinances limit the permissible load per circuit to less than 1650 watts. In this case the initial loading per circuit for voltage drop calculation should be proportionately reduced.

These wiring recommendations are additional to the usual minimum of national and local regulations which govern all wiring installations.

Proper Maintenance Important

Air currents inside of buildings are conveyors of dust particles and of tiny wool and cotton fibers. These particles become stirred up and gradually come to rest on equipment and other stationary objects in the working area. The lighting equipment suffers. As the dust accumulates, the efficiency of the lighting equipment decreases.

In the maintenance operations of any factory, all lamps and reflectors should be dusted at regular intervals. They may be wiped off with a damp cloth, but at every third or fourth interval, they should be washed, using a weak solution of ammonia.

In order that an industrial lighting installation may constantly operate at highest efficiency, all lamps must be replaced immedately upon failure. One dark reflector in the system makes a noticeable gap in the mass lighting effect.

To clean Glassteel reflectors, the enclosing globe must be removed and washed. A Safechange hanger facilitates this job, for the reflector can be removed from its hanger and taken to the floor for cleaning. The danger of shock is also lessened when the installation is in operation, because the plug must be removed before the reflector can be taken off its hook. In some installations of RLM reflectors using 300- or 500-watt lamps mounted high, Safechange hangers facilitate cleaning and lamp replacement.

Full-Fashioned Narrowing . . .

Taking Off the Loops

By M. C. Miller, M. E.

Mechanical Engineer, Manville, R. I.

AS THE camshaft moves from its 1 into its 2 position, the needles move away from the press and downward, as shown in Fig. 49 (TEXTILE WORLD, Feb. 13, page 28). This position of the needle motion is composed of two movements, in-and-out and up-and-down, the former being numbered 2 and the latter 4 in Fig. 51 (March 26, page 29). By examining this figure, it will be noted that the roller 4 rises slightly in this movement of the camshaft and imparts to the needles the slight downward motion shown in Fig. 49, while at the same time the No. 2 roller is lowered, thereby moving the needles away from the press, as also shown in Fig. 49.

In this same movement of the camshaft to 2, the sinkers move toward the needles, as shown in Fig. 49. By examining the sinker motion numbered 3 in Fig. 51, it will be noted that the roller 3 rises in this movement of the camshaft and imparts to the sinkers the required movement toward the needles.

In this same movement of the camshaft to 2, the points move downward as shown in Fig. 49. By examining the motion numbered 5 in Fig. 51, it will be noted that the roller 5 falls in this movement of the camshaft, and imparts to the points the required downward movement.

In this movement of the camshaft to 2, the knock-over bits remain stationary, as shown in Fig. 49. By examining this motion numbered 6 in Fig. 51, it will be noted that the roller 6 in this movement of the camshaft is free of the cam, being held away from its cam by its stop hook 14, Fig. 48 (Feb. 13, page 29), so that no movement can be imparted to this motion until the first rise of its cam comes under the roller at 15.

The change in relationship of the elements to each other in the movement of the camshaft to 2 is shown in view 2, Fig. 50. The solid lines of the elements in this view represent the position of the elements in the position numbered 2, which compares with the numbering of the positions in Figs. 49 and 51, while the dotted lines show the position of the elements in the previous position. Therefore, by comparing the dotted with the full lines, the relative movement from the previous position can be visualized, the needles having moved away from the press and downward; the sinkers have come in toward the needles and the points have moved downward.

As the camshaft moves into its position 3, the needles move downward, as shown in Fig. 49. By examining the needle up-and-down motion numbered 4 in Fig. 51, it will be noted that the roller 4 rises in this movement of the camshaft and imparts to the needles the downward motion shown in Fig. 49, while at the same time the roller 2 follows a radial portion of its cam and thereby is not moved in or out and does not impart an in or out movement to the needles.

In this same movement of the camshaft to 3, the sinkers continue to move toward the needles, as shown in Fig. 49. By examining this motion, numbered 3 in Fig. 51, it will be noted that the roller 3 rises in this movement of the camshaft and thereby imparts to the sinkers the required movement toward the needles.

In this same camshaft movement to 3, the points move downward, as shown in Fig. 49. By examining this motion numbered 5 in Fig. 51, it will be noted that the roller 5 continues to move down in this movement of the camshaft and thereby imparts to the points the required downward movement. The knock-over bits remain fixed as in position 2.

In view 3, Fig. 50, it will be seen that in this movement of the camshaft to 3 the needles and points have gone down without any in or out movement of the needles and that the sinkers have continued their movement toward the needles. It will further be noted that the fabric is now in contact with the upper surface of the knock-over bits. This movement of the fabric is due to the frictional contact of the loops with the shanks of the needles. As the needles move down, the fabric moves with them as far as it can go.

Sinkers Align Needles

The object of having the sinkers come in at this time is to have them assist in lining up the points with the needles. As there is only a slight clearance sidewise between the points and the sinkers, the sinkers coming in at the time the points come down do aid in straightening or aligning the points to a degree, so that any that are badly bent or out of line will later more readily register with their respective needles. Without such guides, all out-of-line points could by no chance register. No great reliance, however, should be placed upon the sinkers aligning the points, even though there is only a slight side clearance between them. The relative stiffness of the points prevents the sinkers from being of great material aid in point alignment.

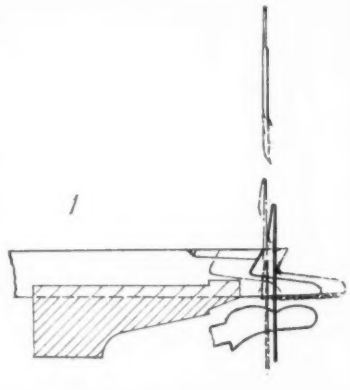


Fig. 50 Movements of points, needles, sinkers, and knock-over bits, in full-fashioned narrowing

Previous instalments of this series on full-fashioned hosiery machines and their operation appeared May 31, July 26, Oct. 4, and Nov. 29, 1930; March 21, April 25, July 11, Aug. 8, Sept. 19, Nov. 28, and Dec. 26, 1931; and Feb. 13 and March 26, 1932. Clippings of Mr. Miller's first series of articles on the past, present, and future of knitting mechanism are no longer available, but the articles are all included in Mr. Miller's book, "Principles of Knitting," recently published by the McGraw-Hill Book Co., 330 W. 42nd St., New York.

As the camshaft moves into its position 4, the needles move downward, as shown in Fig. 49. By examining the needle up-and-down motion numbered 4 in Fig. 51, it will be noted tht the roller 4 continues to rise in this movement of the camshaft and thereby imparts to the needles the downward motion shown in Fig. 49, while at the same time the roller 2 continues to follow the radial position of its cam and is not moved in or out.

In this camshaft movement to 3, the sinkers continue to move toward the needles, as shown in Fig. 49. By examining this motion numbered 3 in Fig. 51, it will be noted that the roller 3 continues to rise in this movement of the camshaft and thereby imparts to the sinkers the required movement toward the needles.

In this same movement of the camshaft to 4, the points move downward, as shown in Fig. 49. By examining this motion, numbered 5 in Fig. 51, it will be noted that the roller 5 continues to move downward. The knock-over bits remain fixed as in position 3.

In view 4, Fig. 50, it will be seen that in this movement of the camshaft to 4 the needles and points have gone down with no in or out movement of the needles and that the sinkers are continuing their movement toward the needles. The fabric rests against the knock-over bits, as in position 3. It will also be noted that the points in this view are now low enough to stand between the sinkers. Their in-and-out position in relation to the needles at this time is not important, other than that they are not in contact with them or with their beards.

As the camshaft moves into its position 5, the needles move in toward the press and finally slightly downward, as shown in Fig. 49. By examining the needle up-and-down motion numbered 4 in Fig. 51, it will be noted that the roller 4 rides on a radial portion of its cam, rising only slightly as it reaches the position 5, thereby moving the needles downward only slightly as the roller nears its position 5. During this same movement of the camshaft to 5, the roller 2 rises on the incline of its cam, coming to the end of its cam incline as it reaches its position 5 and thereby transmitting to the needles a relatively straight inward motion toward the press.

In this same camshaft movement to 3, the sinkers move away from the needles, as shown in Fig. 49. By examining this motion numbered 3 in Fig. 51, it will be noted that the roller 3 moves down its cam incline and moves the sinkers away from the needles.

In this same movement of the camshaft to 3, the points remain in their position 4, as shown in Fig. 49. By examining this motion numbered 5 in Fig. 51, it will be noted that the roller 5 rests on a radial rest portion of its cam and therefore does not lower the points. The knock-over bits remain fixed as in position 4.

Needles Buried in Point Grooves

In view 5, Fig. 50, it will be seen that in the movement of the camshaft to 5 the needles have gone down slightly and have moved toward the points enough to bury themselves in the grooves of the points, their position in relation to the points at this time being as shown in that portion of Fig. 49 illustrating the needle and point register. The up-and-down relationship of the points to the needles during this movement of the needles must be such that the ends of the points are slightly above and in no case below the bottom of the sinkers. This is necessary in order that there may be no possible chance, should the fabric be slightly raised (that is, not resting against the knock-over bits), of the points, as they are buried in the eye of the needles, coming into loop contact and therefore not clearing the fabric with certainty. The up-and-down position of the needles in relation to the points must in no case be higher than the position shown in the view of the needle and point register in Fig. 49; that is, the point must with certainty be fully buried in the eye of the needle. The needle should not be any lower than that position which allows its beard to conform to the inside curve of the point.

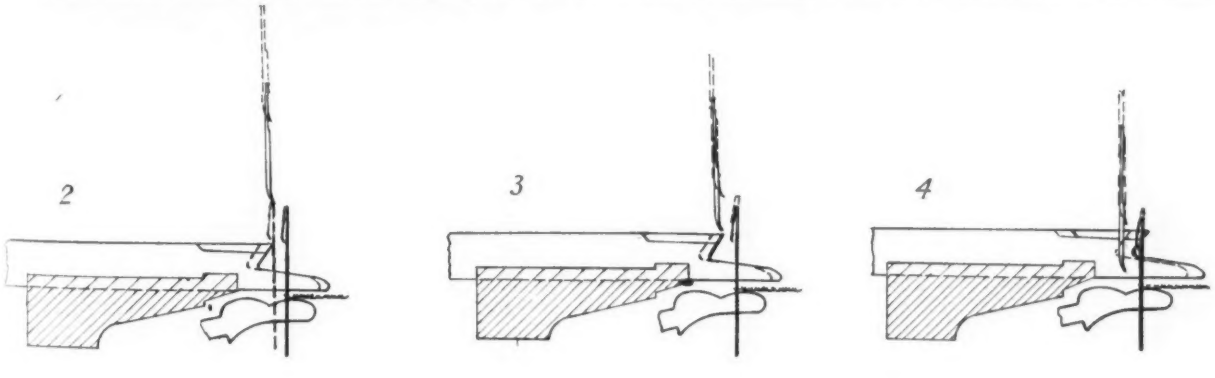
It will be noted that both the point and needle in the register view of Fig. 49 are flexed; that is, they overpress. This is necessary to make certain that the point is fully buried in the needle eye. The over-pressing or flexing of these elements is desirable only in so far as is necessary to make certain that a point slightly out of line with the other points in a direction toward the press, or a needle out of line with the other needles in a direction away from the press, will permit even such points or needles to be safely locked or buried.

It will be seen in view 5, Fig. 49, that the sinkers have moved in a direction away from the needles and points. This movement is given them with no particular object in so far as the narrowing is concerned. They are being withdrawn merely to get into a position to aid in the later formation of the fabric selvage. The formation of selvages will be described in later articles.

As the camshaft moves into its position 6, the needles move downward and slightly away from the press, as shown in Fig. 49. By examining the needle up-and-down motion numbered 4 in Fig. 51, it will be noted that roller 4 continues to rise up its cam incline, thereby moving the needles downward. During this same movement of the camshaft to 6, as shown in Fig. 49, the roller 2 moves downward on the decline of its cam, thereby transmitting to the needles their movement away from the press.

In this same movement of the camshaft to 6, the sinkers continue to move away from the needles, as shown in Fig. 49. By examining this motion numbered 3 in Fig. 51, it will be noted that the roller 3 continues to move down its cam decline, which imparts to the sinkers a movement away from the needles.

In this movement of the camshaft to 3, the points move downward, as shown in Fig. 49. By examining this motion numbered 5 in Fig. 51, it will be noted that the roller 5 continues to move down its cam decline and



thereby transmits to the points their continued downward movement. The knock-over bits remain fixed as in position 5.

In view 6, Fig. 50, in the movement of the camshaft to 6, it will be seen that the needles have gone down and slightly away from the press, and that the points have moved downward with them. The downward movement of the needles and points must be almost alike in this movement, and while a slight relief of the flexing between the needles and points shown in the view of the needle and point register in Fig. 49 can take place, the degree of such relieving must not be enough to chance any point failing to remain safely buried in its respective needle eye. A slightly less downward movement of the points as compared with the movement of the needles is at this time permissible, provided that there is clearance between the lower curve of the needle beard and the lower curve of the groove in the point. Failure to have such clearance and yet have a relative movement take place between the needles and points at this time will chance throwing at least some of the points out of alignment and out of their buried-in-the-eye position, with the resultant failure of some or all of the loops properly riding over and on to the points.

The movement of the sinkers away from the needles and points in this movement to position 6 has no effect upon the narrowing. It is merely done to bring the sinkers into a position to aid in the later forming of selvages and to clear their noses from the points as the points are later shifted sidewise.

As the camshaft moves into its position 7, the needles continue moving downward and slightly away from the points, as shown in Fig. 49. By examining the needle up-and-down motion 4 in. Fig. 51, it will be noted that the roller 4 continues to rise on its cam incline, thereby moving the needles downward; while during this same movement, as shown in Fig. 49, the roller 2 continues to move down its cam decline, thereby transmitting to the needles their movement away from the points.

In this same movement of the camshaft to 7, the sinkers continue to move away from the needles, as shown in Fig. 49. By examining this motion numbered 3 in Fig. 51, it will be noted that the roller 3 continues to move down its cam decline, which imparts to the sinkers a movement away from the needles.

In this same camshaft movement to 7, the points continue to move downward, as shown in Fig. 49. By examining this motion, numbered 5 in Fig. 51, it will be seen that the roller 5 continues to move down its cam decline and thereby transmits to the points their downward movement. The knock-over bits remain fixed as in position 6.

In view 7, Fig. 50, in the movement of the camshaft to 7, it will be seen that the needles have gone downward and slightly away from the points, and that the points have moved downward with them, having therefore entirely unflexed the former sprung position of the points and needles and commenced the withdrawing movement of the needles out of the points. The relative difference in up-and-down movement between the needles and points at this time must not be enough to more than bring the lower outer curve of the needle beard to the lower inner curve of the groove in the point; that is, there must not be an interference of a point with the lower end of any needle beard.

The continued movement of the sinkers away from the needles and points in this movement to position 7 has no effect upon the narrowing. It is merely done to bring the sinkers into a position to aid in the later forming of selvages and to clear their noses from the points as they later shift sidewise.

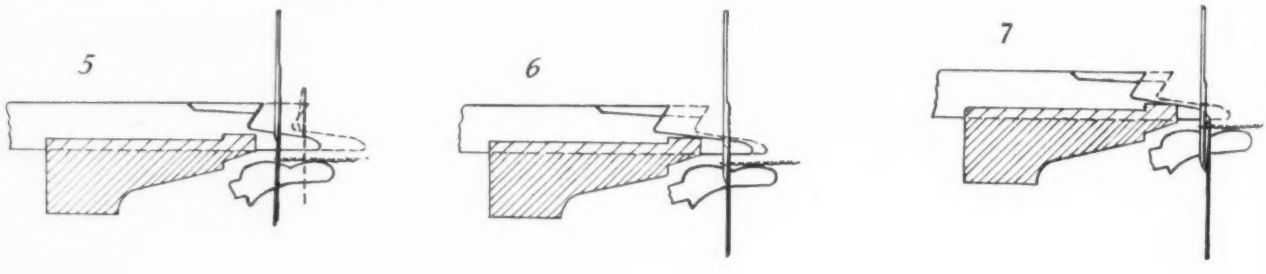
As the camshaft moves into its position 8, the needles continue moving downward and away from the points, as shown in Fig. 49. By examining the needle up-and-down motion 4 in Fig. 51, it will be noted that the roller 4 has continued to rise and is now at the extreme throw of its cam, having thereby moved the needles downward for the time being to their extreme low narrowing position. During this same movement, as shown in Fig. 49, the roller 2 continues to move down the decline of its cam, thereby transmitting to the needles their continued movement away from the points.

During this same movement of the camshaft to 8, the sinkers remain in their position 7, as shown in Fig. 49. By examining this motion numbered 3 in Fig. 51, it will be noted that the roller 3 in this movement of the camshaft rides on a radial rest portion of its cam, thereby holding the sinkers stationary.

Points Take Off the Loops

In this same movement of the camshaft to 8, the points continue to move downward, as shown in Fig. 49. By examining this motion numbered 5 in Fig. 51, it will be seen that the roller 5 in this movement of the camshaft continues to move down its cam decline and reaches its lowest position during this loop-taking-off phase of narrowing. The knock-over bits remain fixed as in position 7.

In view 8, Fig. 50, it will be seen that in the movement of the camshaft to 8 the needles have gone downward and still further away from their points and that the points have moved down slightly with them, having therefore freed the needles opposite the points of their loops. These loops are now held by the respective points, the needles at the same time having moved away from the points enough so that their beards are not affected or do not come in contact with the narrowing points. Although such contacting would not have any effect on this present narrowing movement, it might injure the beards. The degree of downward movement of the needles during this operation is quite accurate; for, while an excessive downward movement would not affect the loops now on the points, it would strain and possibly rupture the loops held by the needles that are not nar-



rowing—that is, the loops held on all the needles between the two narrowing groups. Such downward movement, however, must be sufficient to position the needles in relation to the knock-over bits so that the narrowing needles are low enough to become free of their loops.

The sinkers as shown in view 8, Fig. 50, are in their position farthest away from the points, so that in a later movement the points can shift sideways without interference with the nose of the sinkers.

As the camshaft moves into its position 9, the needles move upward with a very slight movement away from the points, as shown in Fig. 49. By examining the needle up-and-down motion 4, Fig. 51, it will be seen that the roller 4 has started moving down its cam decline, having thereby moved the needles upward. During this same movement, as shown in Fig. 51, the roller 2 continues moving downward very slightly on the decline of its cam, thereby transmitting to the needles their very slight movement away from the points.

The sinkers in this movement remain in their position 8, as shown in Fig. 49, their roller 3 continuing to ride on the radial rest portion of its cam.

In this same camshaft movement to 9, the points move upward as shown in Fig. 49. By examining this motion numbered 5 in Fig. 51, it will be seen that the roller 5 in this movement of the camshaft commences to move up its cam incline, thereby lifting the points. The knock-over bits remain as in position 8.

In view 9, Fig. 50, it will be seen that in the movement of the camshaft to 9 the needles and points have moved upward, the former having moved still further away from the points. Both should move upward a like distance and in like timed relation to each other, so that there is no tendency for the needles which still have loops, particularly needles immediately adjoining the narrowing points, to raise or lower the loops on adjoining points. The sinkers remain in their previous setting.

As the camshaft moves into its position 10, the needles move upward with a very slight movement away from the points, as shown in Fig. 49. By examining the needle up-and-down motion 4, Fig. 51, it will be seen that the roller 4 has continued to move down its cam decline and has come to a radial rest portion of its cam prior to reaching the position 10, having thereby moved the needles upward and caused them to rest in the position 10 shown in Fig. 49. They rest in this position for the period of time during which the roller 4 is in contact with the radial portion of its cam, the needles continuing to rest in this manner during the entire narrowing-point-shift motion which now follows. During the movement to 10, the roller 2 continues moving downward very slightly on the decline of its cam, and likewise comes to a radial rest portion of its cam prior to reaching the position 10, thereby bringing the needles to a complete rest.

The sinkers in this movement remain in their position 9, as shown in Fig. 49, their roller 3 continuing to ride on the radial rest portion of its cam.

In this same movement of the camshaft to 10, the points continue to move upward, as shown in Fig. 49. By examining this motion numbered 5 in Fig. 51, it will be seen that the roller 5 in this movement of the camshaft continues to move up its cam incline and at the end of the movement to position 10 comes to a radial rest portion of its cam, thereby lifting the points to their highest position during this period of narrowing and so holding them during the point-shift motion which now follows. The knock-over bits remain as in position 9.

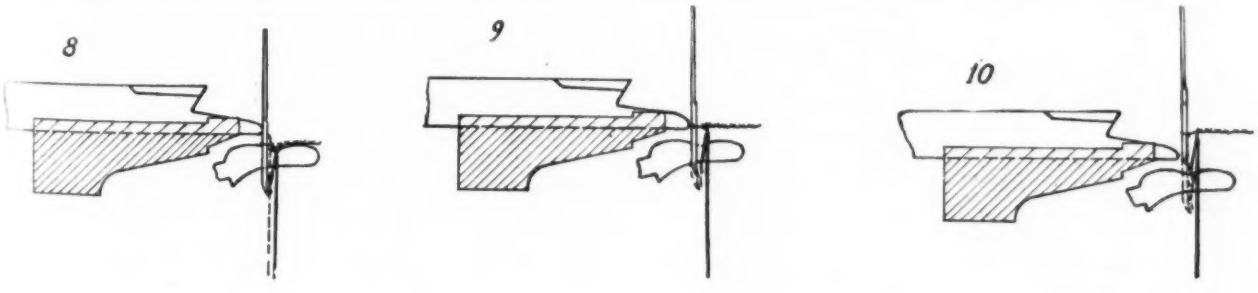
In view 10, Fig. 50, which shows the position of the parts at the end of the camshaft movement to 10, it will be seen that the needles and points have moved upward from their position 9, the former having moved still further away from the points. Both should, during this movement, move upward very nearly in like timed relation to each other, with very little difference in their total amount of movement, so as not to disturb the loops held on the points. The points must move upward enough, however, to insure that their ends are a slight distance above the knock-over bits and that their shanks and ends clear the needle beards and sinker noses. The sinkers remain in their previous setting, with the noses, as previously noted, clearing the narrowing points.

During the first portion of the camshaft movement to 11, it will be noted by examining the cams shown in Fig. 51, that all the various rollers remain on rest portions of their cams so that the relationship of the elements to each other is not changed, in order that the points can be shifted two needles or indexes sideways during this period of narrowing and thereby bring the points opposite and in line with their respectively new needles. Through the succeeding narrowing movements, therefore, the points are in a position to transfer to these new needles the loops taken from adjoining needles two indexes removed, without having changed the relationship of the elements to each other from the positions shown in view 10, Fig. 50.

By examining the needle up-and-down motion 4 Fig. 51, it will be seen that the roller 4, during the remaining portion of the movement of the camshaft to 11, has been lifted up its cam incline, thereby lowering the needles, while at the same time roller 2 continues to ride on the radial rest portion of its cam, thereby causing this downward movement of the needles to be without any appreciable in or out movement.

The sinkers in this movement remain in their position 10, as shown in Fig. 49, their roller 3 continuing to ride on the radial portion of its cam.

By examining the point motion 5 in Fig. 51, it will be seen that the roller 5 has been lowered by moving down its cam decline during the remaining portion of the movement of the camshaft to 11, thereby lowering the points the required distance as shown in Fig. 49. The knock-over bits remain in their position 10.



Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened five weeks ago is closed this week and summary of contributed ideas given on opposite page.

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Employees as Gardeners

Editor, Overseers' Round-Table:

REGARDING vegetable gardens, Pete's ideas have their advantages, but, in my opinion, Bill's viewpoint is best.

It is a good idea to encourage the workers to have gardens, and for the mill to help by purchasing seeds, garden tools, etc., in large quantities which would mean a lower cost to the employees. Many men are natural gardeners and would appreciate the opportunity afforded them by this plan. However, others could work all summer and not raise enough vegetables to pay for the seed; they are just as out of place in a garden as a farmer would be in a mill. Therefore, it should be left to the workers themselves whether or not their spare time should be spent in gardening. F. J. McN.

Editor, Overseers' Round-Table:

I THINK that it is very poor policy for any employer to require that his employees shall raise their own vegetables.

First, most employees resent any attempt to dictate what they shall do outside of working hours. This applies not only to those who would not like to work gardens, but also to those who would be willing to do it if no compelling pressure was used.

Second, if such a plan is put into effect regardless of any ill will that may be created, it would be almost impossible to get those who were forced into such work against their will to do the work in such a manner as to derive any worthwhile benefit from it.

Third, it is economically unsound. Efficient farming must be done on a large scale and modern machinery used. In this respect it is no different that any other industry. If all factory workers were to raise their own vegetables, that would mean so much less work for the farmers, who might find it necessary to install small knitting machines and looms in their homes to supply their own clothes. It has been done before and if we are to continue to slide backward instead of going forward it may be done again.

Fourth, textile manufacturing companies are organized for the sole purpose of making cloth. They buy machinery to make cloth and hire men to make cloth, and the more they concentrate on that one purpose and the less they dabble in other lines of production, either directly or indirectly, the more likely they will be to succeed in their main purpose.

J. RAYMOND COOK

Editor, Overseers' Round-Table:

I BELIEVE it is a good plan to require the employees of a factory to raise a certain amount of food every year.

Most of the people have depended upon the officials of a company for their living but haven't learned how they can depend upon themselves which he or she may have to do, due to worse times than are now existing or due to being too old to get a job.

If a person is working and cannot find time to attend to his "little farm" there may be some member of his

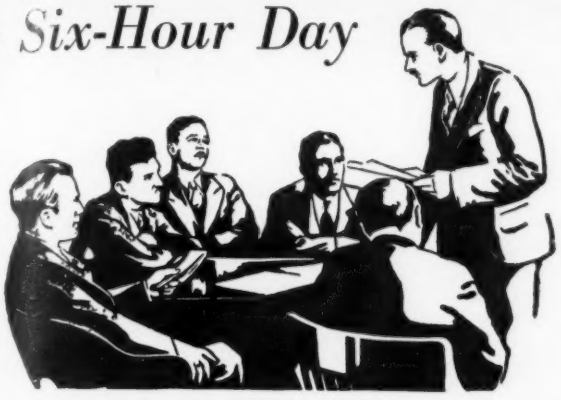
The Overseers Discuss

"THERE has been quite a bit of discussion," said Superintendent Chase, "about having industry go on a six-hour day. What do you think about it?"

"I think it is just another of these wild ideas," Bill answered. "Whenever we have a depression or things go wrong a lot of folks come along with plans that they think will make everything fine again. In the first place, the only way that you could really have a six-hour day would be to have a national law, and I'm against having the Federal Government butt in on such matters. In the second place, you would have one terrible job trying to enforce such a law even if it was passed. What about a mill worker who was perfectly willing to earn some extra money by overtime during a rush? However, even leaving such things out of the picture there are a lot of bad features in the six-hour day. I don't know much about what they call economics, but I do know that if I can only run six hours in my department costs are going to go up. Then again, if we keep the same hourly wage we have now, the workers are going to have less money in the pay envelope and more time to spend it; and I think that might lead to trouble. If, on the other hand, the workers get the same pay for the six-hour day that they are now getting, costs will go up so much that the goods will cost too much for people to buy, particularly since they aren't buying much even at today's prices. No matter how you look at it, it's just another wild plan."

"On the contrary," Pete replied, "it's a good plan. I was reading a book just the other day that told how much more each worker was able to turn out today than a worker 30 years ago. If you keep the same number of workers working the same number of hours and increase the efficiency of the machine 100% you are going to turn out twice

The Six-Hour Day



as much goods. And where is the market for twice as much goods? For years the hours of labor have gradually been shortened, but the jam we are in right now shows that they have not been shortened enough because the trouble today is too much production. Machinery works so fast that the country produces too much on a ten-hour or even an eight-hour day. I don't like doing drastic things any more than the next man, but something has to be done and the six-hour day looks like a good answer to me. As for Bill's arguments about costs going up, the trouble today is not that goods cost too much, but that we are afraid to spend the money with so many out of a job and those with a job wondering how long it will last. A six-hour day would put an awful lot of the unemployed to work again and once people have steady jobs and lose their fear, so they aren't afraid to buy, you'll see business start up again."

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Do you favor a six-hour day for industry as a means of putting people to work and reducing the danger of overproduction?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

family who is idle. Idleness tempts a man to do things which he wouldn't do if he had something to do. He may be led to burglary or some other form of crime.

The time a man spends on the so-called "little farm" is time wisely spent and will at the end of the season shows results. Had he spent his time playing cards, drinking, etc., he would find no results. He will show a loss which no man can afford today. EMIL WIATRAK,
Botany Worsted Mills.

Editor, Overseers' Round-Table:

I AM inclined to think that Pete is right. It is a good plan for the workers to have a garden, but I do not think that a man or a woman should lose his or her job because of not having one. I do think, however, that the management should bring pressure to bear and that it should be understood that each family is expected to have a garden. They help to take one's mind off one's work and somehow I think it makes us a little more industrious.

There is great benefit derived from a good garden and the money that we would spend for vegetables is saved for something else that we need. I believe we eat more vegetables when we do not have to buy them and therefore we are healthier, and a healthy worker is an efficient worker. As for the management telling us what color necktie to wear, I don't think that any sensible organization would dream of such a thing, but you know that sometimes you have to make people make money. I think that if a man knows what is better for someone else who can't see it because of laziness or ignorance, every pressure should be brought to bear on such a one. W. W. MORRELL

Politics and Work

Editor, Overseers' Round-Table:

TO THE best of my knowledge and experience, politics and manufacturing do not work well together. Politics is like a season; comes in with a rush and goes out. People get all upset and while they are taking politics they cannot keep their minds on their work and, therefore, quality and production go down. On comes some smart sheik who has been paid a dollar or two to talk for some candidate, and when your back is turned he has some of your help cornered explaining his side to them. Maybe this sheik is working for you and if he is it will take more of your time to keep him on the job than it would for you to talk to the help yourself.

Now, I do not mean by this that the workers should not be helped. I believe in helping the workers whenever you can, whether it is in politics or anything else. However, if you try to help the worker too much in politics he will think you are one of these "dollar" boys and he will lose confidence in you. Therefore, your quality and production will go down. SOUTHERN SPINNER AND WINDER.

Starting the Boy

Editor, Overseers' Round-Table:

I WOULD very much like my boy to go off by himself and fight his own way, provided that others also followed this practice, which they do not. They put their boys to work in their mills and give little chance to others. Under the circumstances, if my boy is left to himself I am doubtful whether he will secure any opening at all, and in case he secures one, it will be after much loss of time which one cannot well afford in these days. P. B. J.

◆

Summary of Discussion on Vegetable Gardens

The vote on whether employees should be required to have vegetable gardens to aid themselves during slack times was fairly well scattered. About 25% of the contributors stated that employees should be required to do some gardening and about 25% said emphatically that it was the employee's own business and the mill should have nothing to say on the subject. The remaining 50% believed that it would be very helpful to the workers to raise produce for themselves, but advocated having the mill keep out of the picture except to act as purchasing agent for tools, seed, etc., and perhaps to allow the use of spare land.

Soviet Moves to Improve Russia's Wool Output

MUCH progress has been made lately by farmers in Soviet Russia toward improving the quality of Russia's wool output, according to the May issue of the *Economic Review of the Soviet Union*. This publication points out that the U.S.S.R. leads the world in the number of sheep but that due to the primitive methods of sheep-breeding which have been used, the output of wool is less than that of either Australia or the United States.

The *Review* offers interesting and significant data on the current position of Russia in the wool industry of the world. The figures given for the leading wool-producing countries follow:

Country	Metric Tons
Australia	395,193
United States	180,486
U.S.S.R.	174,293
Union of So. Africa	152,860
Argentina	151,198
New Zealand	109,664

"The gross output of wool in the Soviet Union," the *Review* article continues, "has averaged about 175,000 metric tons during the last few years. According to data published by the National Wool Growers Association in this country, the Soviet Union in 1930 ranked third in wool production, coming after Australia and the United States.

"The number of sheep in pre-war Russia totaled 113 million, raised chiefly on small peasant holdings. The figures for the post-revolutionary years are given in the table below:

Year	No. of Head (Million)	Year	No. of Head (Million)
1922	74.2	1927	126.8
1923	78.2	1928	133.5
1924	101.3	1929	132.7
1925	114.0	1930	111.6
1926	121.0	1931	125.0

"The world and civil wars, which reduced the total number from 113 to 74 million, or by over one-third, resulted in an even more drastic reduction of the number of merino sheep, which produce the finer grades of wool. There were 5 million of the latter in 1916, but by 1922 there were only 340,000 head, a decrease of 93%."

On sheep-breeding in Russia, the *Review* comments:

"While the state farms have been the pioneers in the matter of scientific sheep breeding, it is expected that the collective farms, now embracing over 60% of the peasant households, will play the leading role in raising the level of sheep breeding in the country as a whole. Only about one-fifth of the sheep, even of those peasants who have joined collective farms, have been socialized, *i.e.*, have become the property of the collective farms. The remainder are still cared for in primitive fashion by the separate peasant households.

"At present the domestic output satisfies the demand for fine and medium wool to the extent of only about 15% and for coarse wool to 60%. Even with the expenditure of about 50 millions of rubles annually on imported wool, the requirements of the Soviet textile industry have not been fully satisfied. The importance to the country of increasing the domestic output of wool is therefore clear.

"In order to satisfy the requirements of the internal market for the finer grades of wool, it will be necessary to increase the number of pure-bred and grade merinos to approximately 25 million head. This is to be achieved by building up the pure-bred herds already in the country, by importing additional pure-bred stock."

▸ Wool Board Committee Busy on Scope Task

Plans for the definition of the scope of the recently organized Wool Industry Advisory Board, moved forward this week following the appointment of the committee on scope by Col. Chas. F. H. Johnson, president of Botany Worsted Mills, who is chairman of the board. Col. Johnson is now working with the committee arranging material bearing on the question of the board's policies, preparatory to an early meeting of the committee.

The new committee comprises Leo A. Del Monte, president of the Industrial Council of Cloak, Suit and Skirt Manufacturers, Inc., as chairman, and the following members: Lionel J. Noah, president of the American Woolen Co., representing the National Association of Wool Manufacturers; Thurmond Chatham, Wool Blanket Manufacturers Association; T. B. Hayward, Philadelphia Wool and Textile Association; Morris Nagel, Merchants' Ladies' Garment Association, Inc., and Herbert K. Webb, Philadelphia Wool and Textile Manufacturers.

▸ April Cotton Goods Shipments Well Below Production

Statistical reports of production, shipments and sales of Carded Cotton Cloths during the month of April, 1932, were made public Monday by the Association of Cotton Textile Merchants of New York. The figures cover a period of four weeks.

Production during April amounted to 205,089,000 yd., or at the rate of 51,272,000 yd. per week. This was 10.1% less than the rate of production during the month of March.

Sales during April were 102,307,000 yd., equivalent to 49.9% of production. Shipments during the month amounted to 162,104,000 yd., equivalent to 79% of production.

Stocks on hand at the end of the month amounted to 302,216,000 yd., which, although representing an increase of 16.6% during the month, were only 4% greater than at the beginning of the year. Unfilled orders on April 30, 1932, were 218,366,000 yd., representing a decrease of 21.5% during the month.

▸ Loper Sees Textiles In Line For Profits

For the first time since the war the cotton textile industry is not suffering from over-expansion," declares Ralph E. Loper, widely known textile accountant in a report made to Chairman Irving Brown of the cotton week committee of the National Association of Cotton Manufacturers. "According to Department of Commerce figures," he adds, "the industry has been able to operate at about 90% of single shift capacity while other

Capitalizing the current revival of home sewing, Barbara Lamont has placed on the market a line of pure silk quiltings, for domestic use, which is enjoying good sale in leading New York stores. Package contains four to five yards of fresh broadsilk clippings of proper size and color to lend themselves to attractive quilt patterns. Goods are supplied by leading mills and product represents a novel way of disposing of clippings. These quiltings are sold through the Barbara Lamont Products Co., New York City.

major industries are operating at between 20 and 60%.

"These and many other facts seem to justify the conclusion that the mills which successfully pass through this period of general business depression will resume profitable operations during the next period of normal business.

"Department of Commerce reports show the number of spindles in place has declined 5,500,000 from the peak of 1924. Seven million of the spindles in place are not being operated and many of these represent mills in the process of liquidation. It is therefore probable that the number of active spindles, which in 1923 exceeded 35,500,000 and which is now 24,800,000, will remain below 29,000,000 after normal business has returned.

"This means that the total spindles available for production will be the same as in 1910. Since that year the population has increased more than 35%. Since 1910 has come development of the auto industry, which consumes millions of yards in upholstery fabrics and in tires, in all more than twice as much cotton as was replaced by the introduction of rayon fabrics.

"Although 1931 was not profitable, consumption of cotton goods showed a big increase over the previous year. However, a sufficient number of mills operated overtime to overshadow the market at all times with potential overproduction. This resulted in unfavorable prices. In addition other mills, which because of their financial position were compelled to accept most any price, contributed to bringing about even lower prices. Control or elimination of these factors must be effected before the industry can be in a position to make a profit."

▸ Chattanooga Golf Tournament May 26-27

The annual golf tournament and outing of the Chattanooga Yarn Association will be held at the Chattanooga (Tenn.) Golf and Country Club, May 26 and 27. Knitters and weavers of Alabama, Georgia and Tennessee, who are the guests of the yarn men at this tournament, are looking forward to another delightful affair this spring.

▸ Virginia Maid Hosiery Opens Uptown N. Y. Office

The Virginia Maid Hosiery Mills, Pulaski, Va., have established a new office in uptown New York. The office in charge of Herbert L. Gordon, is located in the Empire State building and was opened to take care of an increase in uptown buyers.

▸ Du Pont Rayon Philadelphia Office Moves

The Philadelphia offices of the Du Pont Rayon Co., Inc., have been removed from the Land Title Bldg., Broad and Chestnut Sts., to 1616 Walnut Street, where they will occupy space on the 19th floor.

Trade Sees Only One Answer in Carded Yarns

THE almost complete collapse of business in carded yarns during recent months has been one of the most discouraging phases in the cotton industry. The decline in sales has been progressive, month by month, since October, with the exception of January.

In an attempt to meet this situation, carded yarn spinners have been exerting heroic efforts toward balancing production with demand. The extent of these efforts is reflected in the fact that, at the end of the first week of this month, it was estimated that the mills were operating approximately 35% of normal. Despite this curtailment, however, the statistical position has become steadily worse. For example, it is estimated that stocks at the beginning of this month were more than a third larger than those on hand at the end of last October. Even though present stocks are still conservative and represent probably less than three weeks normal production, this increase is regarded as serious. Of far more significance, however, is the fact that net manufacturing margin has declined from approximately 7c. per lb. last October to approximately 5c. at the beginning of this month, despite a fairly steady market in the raw material.

Can Face the Facts

These facts are generally realized in the trade and the discouragement which they evoke can be realized. Particularly keenly is this discouragement felt by those who have been making every effort to follow declining demand with proportionate curtailment and who yet see no prospect of even breaking even on business secured at today's prices. The only answer forthcoming in the trade is that certain mills have been and are overproducing, and selling their production at ruinous prices.

The disastrous effect of this sort of practice upon the market as a whole is reflected in the fact that the average loss sustained by spinners, on prices as of May 7, in "out-of-pocket" cost would be at least 2½c. per lb. even before any allowance for depreciation or interest. Since this figure is based on the assumption of full operation, it means that a mill producing 50,000 lb. weekly would lose, before depreciation or interest, about $1,250 per week or $65,000 per year if it operated full time. Taking into account depreciation and interest, the average loss per pound would be about three times as great.

The answer of course is obvious. It is remarked in the trade that spinners cannot be held responsible for the decline in business but that they, or rather a minority of them, are responsible for the decline in net manufacturing margin and for the present disastrous price levels, in the face of a fairly steady raw cotton market. It is recognized that the only hope for correction lies in a 100% observance of the principle of balancing production with demand, of observance of sound cost methods, and of firm refusal to accept any business at prices, such as those ruling at present, which carry with them the losses outlined above.

▸ Analytical Reasoning Applied to Textile Operations

(Continued from page 25)

mill gate because it was recorded only in the minds of the men who left Research in one form or another—call it "experiments," "try-outs," what you may—is going on at all times in any textile plant. Too often the results are not recorded. Whatever is worth the cost of doing is worth the expense of recording. Even negative results set down will save expense of later repetition of the work. It is frequently as valuable to know what has been sincerely tried and actually failed as to know what can be done.

Reduction in adjustment on defective merchandise alone is bound to pay for keeping proper and reliable records. Constant analysis of such records will prevent poor merchandise getting to the customer. Savings in dollars and increased prestige are the rewards of basing operations on recorded, analyzed facts.

The rehabilitation of any industrial plant cannot go forward successfully until the ground work is set up of accurate compilation and intelligent analysis of results obtained over a sufficiently long period. Judgment as to further procedure will otherwise ever be clouded with doubt. Existing records must be analyzed, duplicate and unused records eliminated, and new ones installed as wisdom dictates. All records should head up to the production of a monthly operating report and be kept cumulative as the months go on. Similarly the records of expenditures should feed into the preparation of the monthly financial statement. With accurate operating and financial reports the way is paved for rehabilitation plans that will not suffer because of lack of accurate basic data.

▸ Miss Stephenson Analyzes Style Trends

Miss Marion Stephenson, well known stylist, compared the fashions of 1750 and 1850 with current modes at a special showing for members of the Fashion Group at the Metropolitan Museum of Art, New York, May 17. Miss Stephenson emphasized the fact that current fashions have drawn intensely on the periods represented in the Metropolitan collection which includes Louis XV, Louis XVI, the First Empire and the Romantic period. During the last three years interest in period influence and inspiration has been increasing, she said.

NEWS about MEN

G. Edward Buxton was re-elected president of the five Insull mills in Maine, and **Weston Howland** was made a vice-president, at the recent meeting of stockholders. Mr. Howland is treasurer of Warwick Mills, West Warwick, R. I., president of Gluck Mills, Anderson, S. C., and a director of Wellington Sears & Co., Boston. He succeeds **Samuel Stewart,** retired, as vice-president of the Insull mills, which include: Bates Mfg. Co., Andcoscoggin Mills, Hill Mfg. Co., York Mfg. Co., and Edwards Mfg. Co.

S. R. Fuller, Jr., president of American Bemberg and American Glanzstoff Corp., New York, left last week on the "Europa." He plans to return to this country toward the end of June.

Charles H. Bacon, head of Charles H. Bacon Co., Loudon, Tenn., was given a banquet in celebration of his 55th birthday on May 10, by 2,500 employees, at the Lenoir City (Tenn.) branch of the plant. Mr. Bacon gave his pledge to the workers to continue the fight against depression, and to do his utmost to provide them with work. He spoke of his diary farm, with 130 cows, started in the interests of his workers. A bronze tablet was presented to him in behalf of the employees.

W. A. Green, formerly with American Woolen Co., is now superintendent of Chautauqua Worsted Mills, Jamestown, N. Y. He succeeds **George P. Boothman,** who has resigned.

Samuel R. Boggs, president of the Model Mills Co., Philadelphia, has been appointed by Governor Pinchot, of Pennsylvania, to the board of trustees of the Eastern Penitentiary. Mr. Boggs was formerly president of the Gideon Society. He has been a member of the Pennsylvania Prison Society for thirty years.

Emil Buhler, vice-president and general manager of Duplan Silk Corp., Hazelton, Pa., has resigned. He was born in Switzerland, and upon coming to this country when a young man he worked for Schwarzenbach-Huber Co., Union City, N. J. When Jean Duplan, of France, started the manufacture of silk in this country, he engaged Mr. Buhler as superintendent. The Duplan company started as a weaving plant but now includes in addition, commission winding, warping, coning, copping, throwing of real and artificial silk, piece dyed silk, and silk mixed goods. Mr. Buhler retains his financial interest in the company and will remain a director. His resignation takes effect June 1.

T. H. McKinney, vice-president and general manager, Standard-Coosa-Thatcher Co., Chattanooga, Tenn., returned to his office May 10 after an absence of five weeks, which were spent in Florida recuperating from a major operation.

William H. Robertson, treasurer, Robertson Bleachery & Dye Works, Inc., New Milford, Conn., tossed out the first ball at the opening of the New Milford Twilight Baseball League on May 9, acting for his father, **Charles N. Robertson,** president, who was ill. The bleachery company has a team entered in the league, and games are played on the company's diamond.

Samuel Stewart, who has retired as vice-president of the Insull group of mills in Maine. He was at one time agent of Boston Duck Mills of the Otis Co., Bondsville, Mass. He was also a director of the National Association of Cotton Manufacturers.

R. C. Whitehead, secretary-treasurer and manager of the Whitehead Hosiery Mills, Inc., and treasurer of the Mohawk Hosiery Mills, Inc., Burlington, N. C., has been elected president of the reorganized First National Bank of Burlington. **M. B. Smith,** president of the Burlington (N. C.) Mills, Inc., is a director of the bank.

J. T. Hunneycutt, who recently resigned as superintendent of the Smithfield (N. C.) Mills, Inc., is now superintendent of Rex Spinning Co., Ranlo, N. C.

David Wills Hunter, former vice-president of the Hunter Mfg. & Commission Co., New York, was elected president of the Arcade Cotton Mills, Rock Hill, S. C., at a meeting of the board of directors held in the offices of the mills, May 16. He will assume his new duties early in June.

W. H. Beattie was recently elected assistant treasurer of the Piedmont (S. C.) Mfg. Co.

Clarkson Jones, who has been assistant secretary of the Rhodhiss (N. C.) Mills Co., will act as general superintendent of the mills. Other promotions and changes are: **L. A. Elmore,** from overseer of cloth room of Mill No. 2, to assistant superintendent of the company; **G. F. Woods,** from second hand to overseer of carding at Mill No. 2; **E. W. Atwood,** from second hand to second hand in carding at Mill No. 2; **Harley Brown,** promoted to overseer of cloth room at Mill No. 2.

Irving Lewin, who recently resigned as treasurer of Lang & Lewin, Inc., New York, has joined the New York offices of Duplan Silk Corp.

Thomas W. Reilly has become New York sales manager of the Southbridge (Mass.) Finishing Co., and the Sturbridge Printing & Finishing Co., of Fiskdale, Mass.

George D. Rankin, who was associated with the late Paul Guenther in the hosiery business in various capacities for about 35 years, has been placed in charge of sales of the newly formed Paul Guenther, Inc.

Irving Southworth, former agent of the cotton division of Pacific Mills, Lawrence, Mass., is now in charge of the print works division; **Wright Bolton** has taken over the cotton division. **Harry Newton,** former general cotton superintendent of both the Dover (N.H.) plant and the Lawrence plant, is now in sole charge of the Cocheco Dept., at Dover.

H. H. Willis, director of textile department Clemson College (N. C.) has been made chairman of the subcommittee on mill research, working on changes in the design of operation of mill equipment. The committee was formerly headed by **Walter C. Taylor,** secretary of S.T.A. **Warren E. Emley,** chairman of the research committee of the U. S. Institute for Textile Research, appointed Mr. Willis.

William E. Norton, general superintendent and manager of Esmond (R. I.) Mills, has replaced **Charles B. Chase,** resigned, as general manager of Stevens Mfg. Corp., Fall River, Mass., and will superintend both companies. Clarence Whitman & Sons, Inc., New York, purchased controlling interest of the latter company about a year ago. Mr. Norton also heads the branch plant of Esmond Mills at Granby, Que., Canada; he has been with the Esmond company for 22 years, as master mechanic, mechanical superintendent, superintendent and for

the last three years as general superintendent and manager. Mr. Chase was agent of the Stevens company from 1909 until 1917, when he became general manager.

Major J. T. Crawford, who recently resigned as general superintendent of the Aragon-Baldwin Cotton Mills, Chester, Rock Hill, and Whitmire, S. C., has become superintendent of the Whitmire plant, succeeding **H. W. Kiser.** Mr. Kiser has been named superintendent of Watts Mills, Laurens, S. C.

Henry F. Horn, former superintendent of Franklin (Mass.) Weaving Co., has become superintendent and designer at Lincoln Textile Co., Franklin, Mass., a new plant, weaving upholstery and heavy drapery fabrics. The former company is in the hands of a receiver.

C. G. Voss, former superintendent of Bloomfield Mfg. Co., Statesville, N. C., is now in that capacity at Imperial Cotton Mills, Eatonton, Ga.

Allen Jones, superintendent, Clyde Fabrics, Inc., Newton, N. C., delivered an address at the regular monthly meeting of the Charlotte (N. C.) Engineers Club, May 9.

H. W. Kiser, formerly superintendent of the Whitmire (S. C. plant of Aragon-Baldwin Cotton Mills, has been made superintendent of Watts Mills, Laurens, S. C., succeeding the late Roy L. Wood, who died April 30 in an automobile accident.

Matt Staff, who has recently been connected with Draper & Co., Inc., Boston, selling agency for National Wool Marketing Corp., has been made publicity manager of the Marketing company, succeeding **Horace N. Parker.** Mr. Staff will be particularly concerned with keeping growers in touch with market conditions.

H. H. Willis, director of the textile department of Clemson College, appointed chairman of the sub-committee on mill research by Warren E. Emley, chairman of the research committee of the United States Institute for Textile Research.

For some years agent of the cotton division of Pacific Mills, Lawrence, Mass., Irving Southworth is now in charge of the print works division of the company.

Arthur S. Congdon, manager of blanket department of Pepperell Mfg. Co., Biddeford, Me., is scheduled to arrive in New York on the "Conte Grande," May 16. He left Italy, May 6.

K. E. Shawcross, formerly with Crompton & Knowles Loom Works, Providence, has become designer at Statesville (N. C.) Cotton Mills.

T. B. Umpleby, men's wear designer at the Uxbridge (Mass.) Worsted Co. for the last four years, has resigned.

Alton Cook, designer, Madison (Me.) Woolen Co., has resigned.

R. S. Schouler has succeeded **Leslie G. Ball** as designer in the Webster (Mass.) Mill, American Woolen Co.

Harold Flagg has left the Uxbridge (Mass.) Worsted Co., where he was overseer of spinning.

John W. Hindle, formerly overseer of dyeing in plant A, Bradford (R. I.) Dyeing Association, has resigned.

George Kemp, overseer of dressing, Wood Worsted Mills, American Woolen Co., Lawrence, Mass., has resigned.

George Krause, former overseer of finishing, Yale (Mich.) Woolen Mills, has accepted a similar position with Columbia Woolen Mills, Columbia City, Ind.

R. M. Ross has become overseer of carding and spinning of mill No. 2, Clyde Fabrics, Inc., Newton, N. C., replacing **C. G. Price** who has resigned.

H. D. Becknell, formerly with Ranlo (N. C.) Mfg. Co., has become night overseer of weaving at Minette Mills, Grover, N. C.

David J. Twohig has resigned as carder at Merrimack Woolen Co., Dracut, Mass. **A. L. Mason** has succeeded him.

Obituary

Edward Hall

Edward Hall, pioneer in the textile machinery industry, died May 15. He was 92 years of age and conducted Elliott & Hall, Worcester, Mass., manufacturers of cloth-folding machinery, for more than 50 years, retiring in 1915. He was credited with the development and improvement of silk-folding and cotton-folding machines, for which patents were issued to him.

Charles D. Whitney

Charles D. Whitney, superintendent for many years of William Carter Co., at Needham Heights, Mass., and later with the Ware (Mass.) Valley Mfg. Co., died in Ware May 11, at the age of 52 years. He was born in Waterbury, Conn., and early in his career was employed in Winsted for a time.

James H. Readio

James H. Readio, Sr., division superintendent of the Glenlyon Print and Dye Works, Phillipsdale, R. I., died suddenly at his home in Rumford, R. I., on May 9. He had been with the Glenlyon plant for 24 years. Born in Manchester, N. H., he had lived in Rumford for the last 22 years. He was a Mason, a member of the To Kalon Club of Pawtucket and of the Craftsmen's Club of East Providence. He leaves a widow and a son.

W. G. McMahon

W. G. McMahon, president of the Empire Cotton Mills, Ltd., Welland, Ont., Canada, died recently in Winnipeg, Man. He was sales agent in western Canada for the Plymouth Cordage Co., and was also president of the Woods Mfg. Co., Ltd., Montreal.

Textile Calendar

Chattanooga Yarn Association, Annual Golf Tournament and Outing, Chattanooga (Tenn.) Golf and Country Club, May 26-27, 1932.

Philadelphia Textile School, Commencement, Philadelphia, June 2; alumni outing and dinner, June 3, 1932.

Chicago Yarn Men's Circle, 11th annual golf tournament, Nippersink Lodge, Genoa City, Wis., June 22 and 23, 1932.

American Society for Testing Materials, annual meeting, Atlantic City, N. J., June 20 to 24, 1932.

Southern Textile Association 24th annual meeting, Hendersonville, N. C., June 24 and 2, 1932.

Southern Textile Exposition Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932.

Southern Textile Association, regular fall meeting, Greenville, S. C., during week of Oct. 17, 1932 (exact date to be announced later.)

National Association of Cotton Manufacturers, Boston, Oct. 26 and 27, 1932.

NEWS about MILLS

Cotton

General Cotton Corp., Fall River, Mass., has purchased controlling interest in **Totokett Mfg. Co.,** Versailles, Conn., maker of plain and fancy fine cotton goods. The plant has 21,568 ring and 9,744 mule spindles. The corporation has elected officers as follows: President, C. H. Frisbie; treasurer, J. Whitney Bowen, of Fall River. Directors: C. H. Frisbie, David Duncan, J. Whitney Bowen and Jerome A. Newman.

Franklin (Mass.) Weaving Co. has closed and is in the hands of receivers. The outcome of the company has not yet been determined.

Erlanger (N. C.) Cotton Mills, manufacturers of the B.V.D. brand of underwear, producers of shirtings, broadcloths and dress goods, are now operating on a three day and night weekly schedule.

Grier Cotton Mills, Inc., North Wilkesboro, N. C., sustained a fire damage at cotton warehouse recently. An official estimate of loss has not been announced, but is reported as slight.

Sanford (N. C.) Cotton Mills, effective May 9, closed for a week. E. M. Underwood, superintendent, states that the plan is to run alternate weeks until orders warrant an increase.

Fontaine Thread Co., Philadelphia, has taken title to the two-story building at 2228 Clearfield St., on site 79½ x 90 ft.

Riverside & Dan River Cotton Mills, Danville, Va., with combined spindleage of 467,440, and employing about 4,000 workers, have announced that beginning May 16, operations will be on the basis of a four-day week. Robert R. West, vice-president in charge of operations, stated that the change from a six-day week was considered necessary in view of continued stagnation in the cotton goods markets. The management is seeking to spread out employment among the greatest number of operatives and to avoid complete shut-down of any department.

***Roxboro Textiles, Ltd.,** St. Marys, Ont., Canada, have been started by G. Thompson, new owner. Towelling, damask, and broadcloth for men's shirting will be made.

Wool

Pioneer-Pacific Woolen Mills, Inc., Long Beach, Cal., have closed for an indefinite time.

Orcuttville Mill, Stafford Springs, Conn., owned by the **Phoenix Woolen Co.** of Stafford, is being overhauled and will be put in operation as a co-operative unit by weavers in the Orcuttville community. These weavers will make the cloth, sell it, and divide the profits.

Bigelow-Sanford Carpet Co., Inc., Thompsonville, Conn., has continued to operate many of its departments without interruption in spite of economic conditions, President John A. Sweetser recently announced, adding that he held an optimistic view for the future.

Sanford (Me.) Mills announce that 40 more looms are to be operated day and night, due to a large rush order. This will benefit all departments and give employment to many more persons. At the **Goodall Worsted Co.,** manufacturers of Palm Beach cloth and suits, business is constantly on the up grade. The Springvale, Me., unit is employing 250 persons manufacturing Palm Beach pants. Another unit at Nashville, Tenn., is utilizing a few hundred persons turning out Palm Beach coats.

Webster (Mass.) Mills, American Woolen Co., is offering at auction, the tenement houses there as well as the entire Garden City village, through Textile Realty Corp., a subsidiary of the parent organization. Chaseville village, at Dudley, Mass., will also be sold.

Gonic (N.H.) Mfg. Co. has resumed operations after being closed for a few weeks. The closing followed a day and night run of several months duration. Repairs were made while plant was shut down.

Wm. H. Grundy Co., Inc., Bristol, Pa., worsted yarn spinner, is erecting an additional wing. It will be equipped with top dyeing machinery for slub dyed yarns.

Knit

Sulloway Hosiery Mills, Franklin, N.H., started up additional machines this week and gave employment to 80 additional workers. Orders have been received for fall merchandise.

Blood Knitting Co., Amsterdam, N. Y., is now operating on a five day week schedule.

Rugby Knitting Mills, Inc., Buffalo, N. Y., formerly on Pearl St., are now in the new Main St. plant. Ernst Levi, a member of the firm, states that the removal was completed with slight interruption in production.

Interstate Hosiery Mills, Inc., New York, are running on an increased production schedule. Shipments in April were about 52% above those for the corresponding month a year ago.

Nassau Knitting Mills, Inc., Queens, L. I., N. Y., have been organized with capital of $20,000, to operate a local mill. Company will be represented by Henry B. Raff and Anthony J. Romagna, 110 William St., New York.

Olga Knitting Co., Watertown, N. Y., has production under way in the recently opened department for the making of mesh dresses.

Holly Hosiery Mills, Mount Holly, N. J., have been formed to manufacture full-fashioned hosiery. John W. Denworth is president, and Charles Coles, vice-president, secretary-treasurer. Their initial installation will include six Einseidl machines.

Ruth Hosiery Mills, Durham, N. C., operated by W. J. Berry, are on a day and night schedule.

***Granite Falls, N. C.** O. J. Corpening is pushing construction of a one-story knitting mill for hosiery production, 30 x 48 ft., and will provide an initial installation of about 50 machines. It is expected to have the mill ready for service in about 60 days.

Massachusetts Knitting Mills, Columbia, Tenn., are giving employment to about 450 operatives on a full time production schedule.

Pryor Hosiery Mills, Jasper, Tenn., which has been running intermittently for the last 18 months, is using 100 hands and running on full time.

Jellico (Tenn.) Knitting Mills are changing machines to include the making mesh hosiery.

Silk

J. B. Martin Co., Montville, Conn., silk throwing, has recalled a number of employees and increased its working schedule. The mill has been on short time for many months.

***Belding - Heminway Co.,** Putnam, Conn., machine twist and sewing silk, is scrapping a considerable amount of old equipment in its main Putnam plant to make room for machinery being shipped from Belding, Mich., in connection with the company's consolidation program. The company has received most of the $6,000 industrial fund pledged by the Putnam Chamber of Commerce toward cost of moving the plants to the Connecticut town. Harold A. Johnston, superintendent, said the working schedule had not been seriously interrupted by the changes.

**Indicates previous mention of project.*

Sunshine Silk Co., Inc., Paterson, N. J., recently organized with capital of $125,000, will be represented by Maurice Sanders, 66 Hamilton St., Paterson, attorney. The incorporators are Samuel Michal and Samuel Stein.

***Champlain Spinners, Inc.,** Whitehall, N. Y. Production has been started with about 75 operatives.

S. & R. Silk Mills, Charlottesville, Va. William J. Schepp, of Ridgewood, N. J., president, has purchased the interest of Julius Rosenthal, New York, in the company and now becomes the sole owner. The name of the concern has been changed to **William J. Schepp, Inc.** Plans are being formulated to open the mills on a regular schedule in the near future.

Rayon

DuPont Rayon Co., Old Hickory, Tenn., has closed a one year safety record at its local mills. During this time no major accident has occurred, the last being on May 9, 1931.

Finishing

Reliance Dyeing & Finishing Co., Covington, Ky., has been organized to operate a local mill. The incorporators are W. A. Clark, G. W. Hughes and H. J. Kratz, all of Covington.

Miesch Mfg. Co., Paterson, N. J. Property will be sold at once by the liquidating trustees, including weaving, printing, finishing, dyeing and other departments.

Supreme Piece Dye Works, Paterson, N. J., recently organized with capital of 1,000 shares of stock, no par value, to operate a local dye and finishing mill, will be represented by Emanuel Shavick, 140 Market St., Paterson, attorney.

North Carolina Finishing Co., Salisbury, N. C., will install sewing machines and start manufacture of men's shirts.

Miscellaneous

***Astill Elastic Products Co.,** South Norwalk, Conn., will make webbing products, hose supporters, and underwear. Work will be started with about 30 employees at 523 West A Ave., South Norwalk. S. P. Astill is principal owner.

Lincoln Textile Co., Franklin, Mass., privately owned, has started work under the direction of Carl E. Bailey, agent, and Henry F. Horn, superintendent and designer. The product will be upholstery and heavy drapery fabrics.

Byfield Felting Co., Lawrence, Mass., recently organized to manufacture felts, with capital of $15,000, will be represented by Livingston Stebbins, 6 Beacon St., Boston, Mass., treasurer of the company. Alfred S. Williams is president.

**Indicates previous mention of project.*

New Books

COTTON YEAR BOOK, 1932; Textile Mercury, 41 Spring Gardens, Manchester, England; 7s. 6d.

This annual publication concerns all matters affecting the cotton industry from the raw material to the finished product. A review of the cotton trade for the preceding year is one of the interesting sections, and notable additions have been made to those pages devoted to a consideration of the position of the rayon industry. New chapters have been introduced which deal with the year's progress in all sections, and the contributions of the dyeing and finishing end to trade progress have received special treatment.

THE TEXTILE MANUFACTURERS' YEAR BOOK, 1932; Emmott & Co., Ltd., 65 King St., Manchester, England; 7s. 6d.

The aim of this publication is to provide compressed, but complete up-to-date accounts of the art of textile manufacture in all branches. There are two entirely new sections—the first, on silk, includes a review of sericulture, varieties of silk and silk weighting, the properties of silk, testing, silk throwing, and staple-silk spinning; and the second, on worsted spinning, contains much valuable information and data on sets in a condensed but complete form, with notes on the various processes. The sections on cotton and knitting have been augmented; and another section has been added, entitled Chemical Tests and Tests for the Identification of Fibers.

FRASER'S DRY GOODS DIRECTORY, 1932; The Fraser Publishing Co., 507 University Tower Building, Montreal, Canada.

In the 18th annual edition, 450 pages are found to contain a carefully indexed directory of the dry goods and apparel industries and allied lines in Canada. It is a handy and complete buyer's guide.

WOOL YEAR BOOK, 1932; Textile Mercury, Ltd., 41 Spring Gardens, Manchester, England; 7s. 6d.

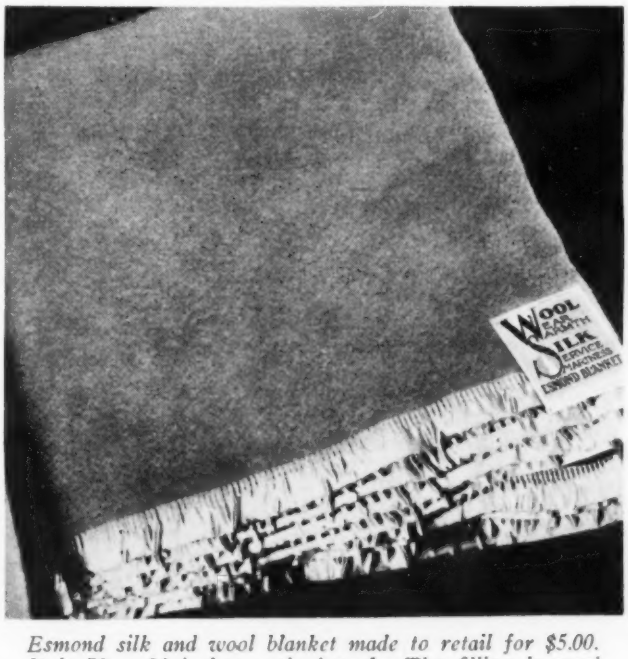
In this, the 24th edition, because of the many technical advances, the chapters dealing with the productive side, from the raw material to the finished article, have been thoroughly revised. The chapter dealing with wages and conditions of employment has been amplified by the inclusion of more detailed information, and the developments in the bleaching and finishing processes again constitute a new chapter.

THE COST OF LIVING IN THE UNITED STATES IN 1931; National Industrial Conference Board, Inc., 247 Park Ave., New York; $3.

The total cost of living for wage earners in the United States declined 10.3% during the year 1931. During 1930 the decline was 7.5%. These figures, showing the rapid downward trend in the cost of living during the last two years are published in the 8th annual volume of the National Industrial Conference Board series on the cost of living in the United States. In this publication, changes in the cost of food, clothing, rent, fuel, light, and miscellaneous commodities are analyzed for the period from 1914 to 1931, with the year 1923 used as the basis of comparison.

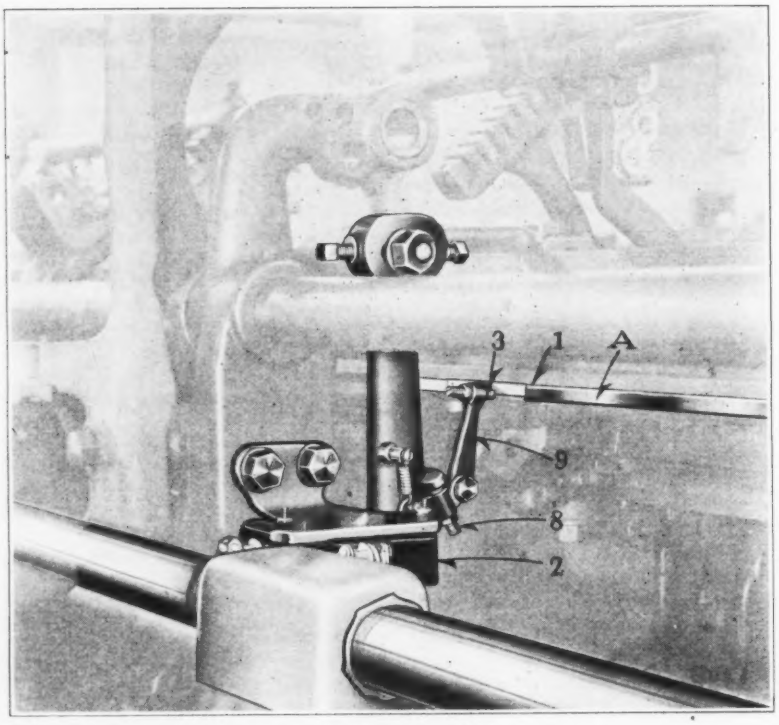
REPORTS OF THE MILL OWNERS' ASSOCIATION OF BOMBAY; G. Claridge & Co., Ltd., Bombay, Ind.

The proceedings of the annual general meeting of the Mill Owners' Association of Bombay have been compiled in book form.



Esmond silk and wool blanket made to retail for $5.00. It is 72 x 84 inches, satin bound. The filling is wool yarn; the warp, spun silk. This innovation in blanket making is said to add to the blanket's lightness, service and strength. The line comes in nine colors.

New Machinery *and* Processes



Showing application of safety switch to Coulier motion on full-fashioned machine

Coulier-Motion Safety Switch

AS a means of preventing costly Coulier-motion smashes, Textile Machine Works, Reading, Pa., has added to the standard equipment of their full-fashioned machine, the Coulier-motion, safety-switch mechanism.

This mechanism consists essentially of a limit switch, cam bar, and trip lever, mounted on the center frame, slur-cam box connecting bar, and back catch-bar lever respectively. The cam bar is set on the connecting bar in such a position that at the end of couliering, or drawing, the trip lever is at the center of a slot on the cam bar. When the catch bar is carried forward during the dividing operation, the trip lever will enter the slot and consequently will have no action on the limit switch. This mode of operation should continue as long as the coulier motion is functioning properly.

Should the Coulier motion fail to function, thus causing the cam bar to be stopped at any point between the slot, the trip lever will hit against the edge of the cam bar instead of going into the slot when the catch bar is brought forward for the dividing action and will cause the limit switch to be tripped. The switch then, by creating a momentary break in the circuit, causes the machine to be brought to a stop, thus preventing serious damage.

In the accompanying illustration, the slot in the cam bar is shown at *1;* and the trip lever is shown at *3.*

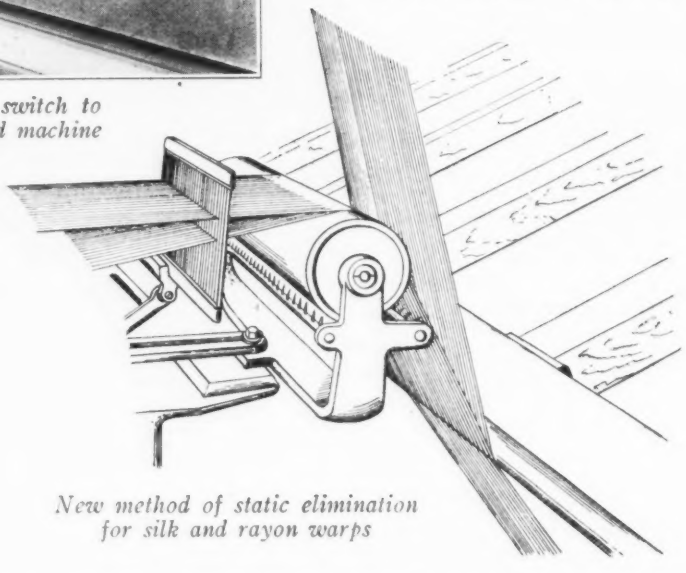
Static Eliminator for Silk and Rayon Warp

TO overcome the difficulties encountered through the setting up of an electrical charge in warping silk or rayon, Sipp-Eastwood Corp., Paterson, N. J., has developed a new static eliminator.

The eliminator has two purposes. The first is to generate an electrostatic charge equal in amount but opposite in polarity to that carried by the material being processed; the second is to neutralize these two charges. In warping silk or certain types of rayon, the strand, in passing through the air or various metallic guides, assumes what is said to be a positive charge, thus causing the strands to repel one another. By passing these strands over a roller having a charge electrically negative to that already in the warp and then neutralizing the two charges, the strands are left without an electrical charge. The eliminator is designed as a practical execution of this fundamental principle.

In the diagram, the roller is made of a substance such as hard rubber which lies in the negative end of the electric series. In passing over this roller the strand generates a negative charge which is equal in amount to the positive charge already in the stock. This charge is drawn off the roller by pointed collectors set in a steel bar beneath it. In a similar manner, the electrostatic charge is drawn off by another set of collectors. Both collectors are conductively connected by a metallic strip.

The device, as shown, is particularly adapted for use on warping machines, but it is stated that the fundamental principle may be applied to any machine where a dielectric substance is being processed.



New method of static elimination for silk and rayon warps

Valve Signal Device

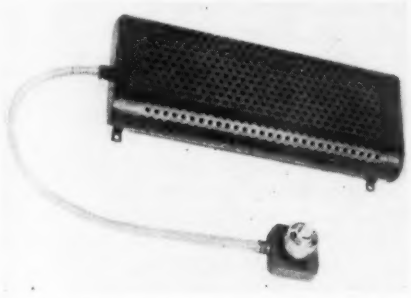
A NEW electrical signal device to be used in connection with the control valve on the Copes feed-water regulator

is announced by the Northern Equipment Co., Erie, Pa. It is designed to give instant warning of any abnormal condition in the boiler-feed supply by signalling by means of a bell or electric light if the valve should ever reach the wide open or fully closed position.

Electric Air Heaters

A LINE of horizontal electric air heaters for industrial applications is announced by the General Electric Co., Schenectady, N. Y. Five ratings are listed: 1,000 watts at 115 volts; and 1,000, 2,000, 3,000 and 4,500 watts at 230 volts.

The heaters consist of a number of strip heaters mounted in black Japanned, perforated, pressed-steel cases. Each is equipped with 3 ft. of armored cable and a three-heat snap switch mounted on a standard conduit box. They are designed for wall or floor mounting.



Electric heater with temperature adjustment

Free air circulation, ease of installation, lightness and strength, and adjustment of heat are claimed as some of the advantages of this device.

Electric Motors

THREE new motors have recently been added to the line of electrical equipment manufactured by Century Electric Co., St. Louis, Mo.

Fig. 1 shows one of the new products, a d.c. motor for vertical installation. Motors of this line, known as the type R, are ball bearing, grease lubricated, mounted on a ring base or directly on the service equipment, as required. The top bearing bracket is protected with a cover and may be furnished either open or with screen or solid covers to meet surrounding conditions; they are built in sizes of from 1 hp. to 150 hp.

Their line of slip-ring motors has been extended from 20 hp. to 250 hp., 1,800 r.p.m., 60 cycles. One of the new slip-ring motors is shown in Fig. 2.

Fig. 3 shows the most recent addition to the line—a brush-riding, single-phase, repulsion-start induction motor. These are intended primarily for those applications where the most quiet operation or the higher operating characteristics are not required. This line is not intended to replace the already existing line of brush-lifting motors.

Fig. 1. Vertical motor

Fig. 2. New slip-ring motor

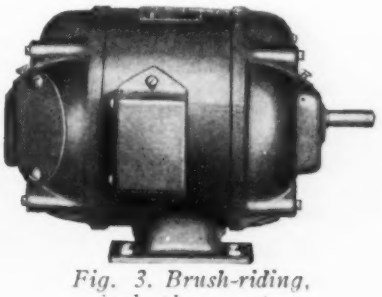
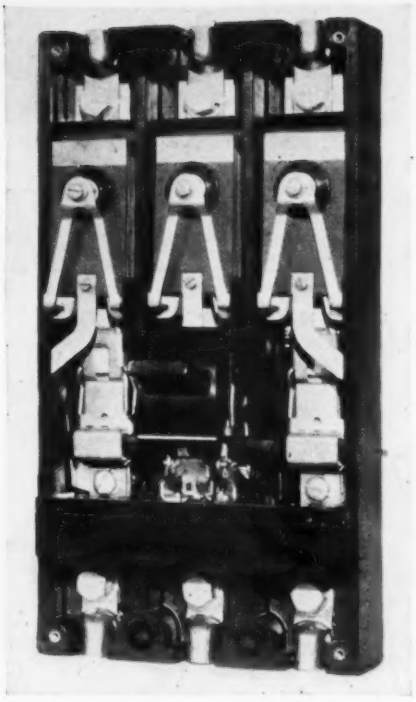


Fig. 3. Brush-riding, single-phase motor



New circuit breaker exhibits unique method of protection

"De-ion" Circuit Breakers

FOR circuit protection in buildings, homes, industrial plants — in fact, wherever electricity is used—a safe, flashless device has been developed by the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

A number of advantages over other equipment designed for the same purpose are claimed for the De-ion breakers. The De-ion breaker has nothing to be replaced or renewed; it can be reclosed by anyone as quickly and easily as a switch. It is stated that it cannot be held closed against an abnormal overload or short circuit, nor can it be locked to prevent opening the circuit; its rating cannot be changed by unauthorized persons. It has a time lag, preventing unnecessary tripping on slight momentary overloads.

Space requirements have been reduced to a minimum, and the breaker is declared to open a short circuit without flash or undue noise.

The device is so inclosed in a molded composition box that no live parts are exposed. A handle, like that of a switch, protrudes through the cover to provide means for manual operation and for reclosing the switch after it has been tripped. The trip mechanism consists of a bi-metal thermal unit calibrated to trip at 125% overload.

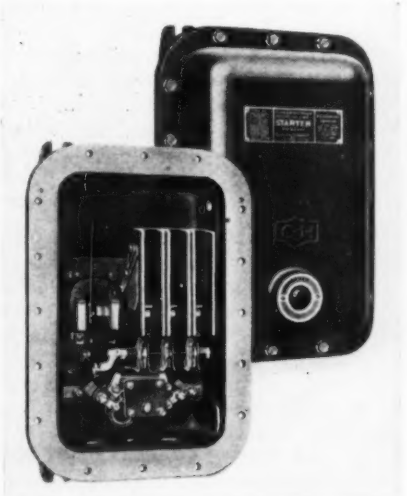
As a replacement for safety switches, the De-ion circuit breaker is mounted in a steel enclosure. The case and the operating handle covers are hinged and can be locked to prevent operation by unauthorized persons. A small red indicating neon lamp shows when the breaker is closed.

The use of these breakers is said to reduce the size of the switchboard. A 600-amp. De-ion breaker occupies a space 8¼ in. wide.

Explosion-Proof Starter

ANNOUNCEMENT of an explosion-proof, across-the-line type, a.c. automatic starter, designed in accordance with the specifications of the underwriters for class 1, group B locations, is made by Cutler-Hammer, Inc., 309 North 12th Street, Milwaukee, Wis.

The new starter is of the air-break type, and the inclosure is designed to prevent any explosion which might occur within it from igniting the surrounding explosive atmosphere. These starters are designed in three sizes, to take care of motors up to 30 hp., 220 volts; and 50 hp., 440 or 550 volts.



Showing interior of explosion-proof automatic starter

Questions . . . *and* Answers

Narrow-Fabric Weaving Problems

Technical Editor:

We are enclosing a sample of a cotton tape with a rayon edge. As you will note, the edge of this is curled; and loom or tension adjustments do not correct this. While a simple wetting and calendering will remedy this, we wonder if it is not possible to make it come flat from the loom and so eliminate any subsequent finishing.

Enclosed also is an all-rayon ribbon. It seems impossible to make this without starting and shire marks; and all the conventional adjustments seem futile. Even if the take-up is let back a few picks before starting, the defect remains and the first few succeeding picks are closely beaten in. What would be your suggestions? (7876)

In the many attempts which have been made to overcome the curling of a rayon edge when combined with a cotton body, the results have always been the same. The trouble is due to the difference in the inherent characteristics of the two materials. While the cotton will contract to its normal length after being stretched, the rayon will not fully return; and the result is a curled edge. The only solution, in our opinion, is a simple wet finishing.

In reference to the all-rayon sample, we greatly suspect that the trouble is entirely at the loom. Materials of this type are generally made on a long loom (a maximum number of shuttles being necessary to successfully meet competition); and if the loom is not properly constructed, thin places will appear in the webbing every time the loom is stopped and started. The direct cause is usually loose connecting-rod bearings, or insufficient support to the loom crankshaft or to the lay. If the trouble is loose bearings, the defect in the webbing is quite apt to occur on every strand in the loom (being most pronounced near the looser rods) and will appear each time the loom is started, the defect disappearing as the lay attains the maximum throw. If the trouble is insufficient support to the crankshaft, the defect is usually more pronounced on the central strands of webbing, and is due to the buckling of the lay and crankshaft, and gradually disappears as the maximum throw is attained. Too few connecting-rods will permit the lay to buckle and cause the same defect.

▼

Tarnish-Proof Cotton Felt

Technical Editor:

We understand that there is now on the market a specially treated cotton felt which is being employed to make bags or cases for holding silverware. We understand that silver which is kept in these cases will not tarnish. We shall appreciate any information that you can give us regarding the treatment to which the felt is subjected. (7864)

There have been a number of methods proposed in the past for treating fabrics so that they would absorb hydrogen sulphide and other gasses which tarnish silver. Among the materials which have been employed in these processes are lead oxide, zinc oxide, zinc acetate, and zinc chloride. We understand, however, that their use has not been entirely satisfactory.

More recently a method has been patented for impregnating the fabric with silver compounds. The patent is now the property of Pacific Mills, and this company is processing fabrics according to the methods specified in the patent. Cases for silverware, made from fabrics thus treated, are being sold by the retail department stores and by jewelers. The process as described in the patent specification is comparatively simple. A solution is made containing about 12 oz. of silver nitrate to 1 gal. of water. The fabric is passed through the solution, squeezed, and without drying is passed into a 2% solution of sodium carbonate. The goods are then washed thoroughly to remove the excess alkali and are dried. It is possible, of course, to use other soluble silver salts and other precipitating agents, but those mentioned above have proved to be the most convenient.

▼

Finishing Cotton Fabric

Technical Editor:

We are inclosing herewith two samples of finished cotton fabric. The one marked A is from a lot which we have processed, and the sample marked B is what we wish to duplicate. We are running this cloth in a regular two-bowl starch mangle and are using 40 lb. cornstarch, 30 lb. dextrin and 20 lb. sulphonated olive oil to 100 gal. of water. (7863)

An examination of the finished sample marked *B* reveals that the starch paste shows more on one side of the fabric than on the other. The formula which you are using should be satisfactory, and we feel certain that the principal reason that you have not been able to duplicate the finish desired, is that you have run the fabric under a roll in the starch mangle before passing it through the nip. This procedure has distributed the finish evenly throughout the piece instead of making a decided face-and-back effect.

We suggest, therefore, that you finish a trial piece by running the goods as received from the drying pan through a two-bowl starch mangle, the cloth passing directly into the nip. It is not advisable to have too much pressure at the nip, and for that reason the mangle should be constructed with a brass roll and a rubber roll of medium density. It should be possible also to duplicate this finish by passing the goods through a back-filling machine, using a pure starch mixture. In all probability, however, the sample which you are attempting to duplicate was finished on an ordinary starch mangle. After starching, the cloth is dried on cans, tentered to width, conditioned, and calendered in the usual manner.

▼

Low Boil-Off Not Indication of Weakness

Technical Editor:

We are forwarding you one spool Crack XX Special 13/15-denier Japan silk, satisfactory, by reports received, for georgette crepe stock. Raw boil-off was 14.59%, which we consider very low. However, we rechecked and found this to be correct.

This particular spool shows tender spots; also loose filaments, and apparently split ends. Our opinion is that, due to low boil-off, the thread lacks sufficient gum to hold it intact, causing it to snap and cause the other defects

previously mentioned. Will you kindly examine the thread on this spool and advise us of your findings? (7873)

The thread, as you state, is open and split, indicating a low cohesion. It also has tender or weak spots occurring at fairly regular intervals, indicating that a spot of the silk was damaged in the skein by some chemical. The low boil-off does not cause an open-thread or weak spots. A low boil-off frequently indicates a hard-nature thread, well-agglutinated or compact, and of a good cohesion and free from weak spots.

▼

Warp Streaks in Dress-Goods Fabric

Technical Editor:

We have had considerable trouble with warp streaks on a dress-goods fabric and wonder if you could possibly help us in locating the trouble. These warps consist of approximately 2,700 ends of 2/30s worsted reeded over 65 in. and made on a pinless dressing frame.

We believe the trouble arises from uneven tension on the spools while dressing. Should not the dresser tender vary the weight on the spools as they get smaller?

We are enclosing a piece of the fabric in question and would thank you for any suggestions you may have. (7872)

These warp streaks are caused by uneven tension. The dresser should vary his tension on the spools as they get smaller. Usually a board with a weight attached to it is used for applying tension to a spool, and for varying tension this weight is shifted on the board. Bad spooling can also cause these streaks even if your tension on the spool is correct.

▼

Warp Streaks in Silk

Technical Editor:

Would you kindly give us your opinion on the sample of silk fabric enclosed? As you will notice, it has the appearance of very fine and even warp streaks. The filling used in this quality is 3-thread, 20/22, 65 turns. Kindly advise us how to overcome it. (7881)

We have examined the sample submitted to us and find in our examination that the streaky defect has been caused by improper or faulty treatment during the dye bath. We also find that there is a considerable variation in size of the warp stock, and in warping there have been a number of these fine ends grouped together.

Our suggestions are as follows: See that all lots are kept separate, and be careful of spotting. Spotting one-and-one, two-and-one, or up to five-and-one will rid the shelves of all odd lots that have been left over from preceding lots. See that your soaking is done carefully and not in a haphazard manner. See that all swift weights are uniform, also that there are no bobbins dragging on the warp creel.

We suggest that if everything at the mill is correct and these streaks are not eliminated that it would be worthwhile to change your finisher and note results. A slight additional cost per yard often produces wonders; and the cost for better work is many times made up by the reduction of seconds.

▼

Splotchy Effect in Cotton Suede

Technical Editor:

I am enclosing a piece of 2.70-yd. suede which has a splotchy effect in area outlined by the red mark. These goods are desized in open width and bleached in an open kier with hydrogen peroxide using the spray system. They are then napped and felted and dyed on a continuous piece-dyeing machine with sulphur colors. (7835)

The area indicated on the imperfect goods is of quite common occurrence in goods bleached by hypochlorites (chemic) in pits and is generally ascribed to the formation of oxycellulose on the irregular surface of the cloth as it lies in the pile. Under careful control, hydrogen-peroxide bleaching should not result in over-bleaching. Unless the process is carried out properly, however, over-bleaching is still a possibility.

It is well known that certain metals and their salts act catalytically to cause rapid decomposition of peroxides, therefore the areas that have been affected may really have been overbleached. However the original cause was due to a deposit that was already on the goods prior to bleaching.

Tender spots would have the same origin as the clouds and splotches, while resists originate from the presence of calcium and magnesium compounds in the water supply. When silicate is used as a neutralizing agent with the peroxide, it may attach itself to any lime, magnesia, or alumina that may be present, and also to iron. In this case, however, it does not wait until the dyer gets the goods to make its presence known, but shows at once as a buff or brownish stain.

To counteract these conditions the addition of wetting-out agents which keep the mineral salts from being active often is recommended.

If the goods are to be dyed in any shades except delicate blues or pinks, there is no need for a full bleach, either with chemic or peroxide. A good boil with the caustic bath to remove the cotton extractive matter and soften the seed hulls, if any, would leave the goods in suitable condition to be dyed in browns, olive drab, and fairly deep shades; and you would eliminate most of the present troubles. Many manufacturers of similar fabrics do not consider it necessary to bleach the goods; and in fact, a great number who dye with sulphur colors simply run the gray goods into the dye, depending on the caustic action of the sodium sulphide itself to clean out the soluble matters in the cotton during the dyeing.

In dyeing napped goods of this sort, it is well to have the goods delivered to the dyer partially napped and then to complete the napping after the dyeing and drying. This procedure insures a fuller shade on the nap and eliminates any tendency for the napper to pull up any white or undyed fibers from the body of the goods.

Inquiries should give the fullest information possible; and if damaged materials is involved, a sample should be sent. We give no consideration to anonymous inquiries and do not undertake routine analysis of yarn or fabric, or investigation involving unusual expense.

▼

Holes in Rayon Webbing

Technical Editor:

We are enclosing several swatches of rayon webbing containing holes which, in our opinion, have been caused by weak spots in the yarn. Will you kindly examine these holes and advise us whether in your opinion they were caused in the dyeing process due to rough spots in the machine or to chemical action. Did weak spots in the yarn prior to the knitting cause the yarn to break in the process? (7885)

After a study of the fabric, we have come to the conclusion that the trouble may be either of a chemical nature or perhaps a knitting fault.

In the large piece, it is quite clear that one feed is drawing a slightly larger stitch than the other, forming horizontal bars about every half inch. It may or may not be a coincidence, but the three holes in this piece all seems to center on one of these horizontal lines. We should hesitate to state definitely that the knitting is at fault unless much more fabric was observed.

We tested the fabric for the presence of weakening due to oxidation of the rayon, and while there seemed to be an indication of oxidation, it was much less marked than is usually the case when such chemical faults as incomplete washing are practiced.

If the defect is formed in the knitting, the weakened or broken yarn should be detected by a close observation of the fabric as soon as it leaves the knitting machine.

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•

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TEXTILE WORLD ANALYST

Throwsters Institute Spikes Price Rumors, Helps Stability

◆

Of all the problems now vexing the textile industry, the price cut rumor is probably the most difficult to cope with because the most insidious. The argument, often enough false, that the same quality can be obtained more cheaply elsewhere, has enabled buyers to break the market on many a legitimately-priced product. An example of how organized effort can spike price-cut rumors, to the advantage both of buyer and seller, is offered in the case of the Throwsters Research Institute which in three months, has made signal progress.

IMPORTANT progress toward stabilization of prices in commission silk throwing has been effected by the Throwsters Research Institute during its first three months of operation, and now this organization is laying tentative plans to tackle numerous other vital problems confronting the throwster.

The creation and rapid development of the Throwsters Institute has been significant in many respects, and the vigor with which the yarn mills, through coordinated effort, have struck at the most critical evils of their industry, offers an object lesson to other textile groups.

The Throwsters Institute was formed in the middle of February with a nucleus of a few leading commission throwsters. In the subsequent three months the organization has grown until today its membership totals 75 firms, representing 78% of the spindles of the country.

To appreciate how such a growth could be effected so quickly in a period of business hesitancy such as the present, one has to understand the problems confronting the commission throwing industry during the last few years. The main issue was price-cutting on throwing jobs, and this evil became steadily more pronounced as the depression advanced. Commission throwsters had many idle spindles. Numerous weavers who had spindles originally used for the throwing of their own yarn, also found themselves with idle machinery due to declining demand for broadgoods. These weavers sought commission throwing contracts to tide them over the crisis; and since this was only a sideline for them, they often underquoted the commission throwing market on jobs.

Conditions became acute last winter; with the total available business at a low ebb, thrown yarn mills scrambled for jobs, underbidding each other irrespective of the profit factor. On the claim of those placing contracts that they could get work done more cheaply elsewhere, throwsters frequently reduced bids to the point of trading dollars.

It became evident in January that something had to be done to save the industry from chaos, and then the plan of organizing the institute evolved. Dean Hill, who has a wide background of textile training, was placed in charge of the task, as executive secretary of the institute. Under Mr. Hill's guidance, the institute members agreed to supply their new organization with weekly reports of all work taken, stating also the price quoted for the job. The use of key numbers concealed the identity of each mill sending in a report, and the reports were consolidated by the executive secretary who then sent out an interpretation of the total to the members.

This solved a vital problem. The weakness was due to lack of knowledge of market conditions and price averages. The institute supplied this necessary data. The throwsters, hitherto in the dark as regards true prevailing levels, thus were enabled to meet the difficulty of their market, individually and spontaneously.

The benefits of this service began to show themselves almost immediately. Prices slowed their decline, held steady for a time, and then gradually began to advance. Today they are approaching the point where at least a pittance of profit is possible. It is estimated that present prices for commission throwing are 5 to 10c. per lb. above January. Institute members are now thoroughly sold on the value of organized action; some assert that, if the data on jobs and prices had not been made available to the industry prices today would be 10 to 15c. below the unprofitable levels of January.

The new movement has numerous aspects of significance to the throwsters. It has given them common ground to discuss and analyze their problems. The institute serves as a clearing-house and permits them to spike false rumors of underselling immediately and to put a real value on quality service.

One important point is that the institute admits to membership all firms in the United States having throwing plants which are used for commission work, for throwing for sale or for throwing for the owners. This enables the organization to include weavers, and numerous important broadsilk mills having throwing equipment now are on the roster. As these weavers previously had been serious competitors, their admittance to the institute solves a considerable part of the competition problem.

The institute holds regular conferences at which weavers and throwsters come together. Through these meetings the weavers have been shown the danger of their policy of underbidding the market on commission jobs. Today weavers who want work to keep their spindles active, hold fairly steady to prevailing prices.

Price-cutting on throwing jobs has become a very minor proposition, thanks to the institute's activities, and throwsters take a stronger attitude toward customers who make exaggerated claims as to prices they can get elsewhere. The figures compiled by the institute have shown that only 35% of the spindles in the country are operating; these figures were distributed to the members and helped to develop price morale, as they illustrated the folly of relying on price-cutting to force business.

Shortly after it began operating the institute decided to create an associate membership, admitting on that basis the manufacturers of all throwing mill supplies, including machinery, oils, parts, etc.

These firms have shown very keen interest in the organization and a number of them have joined as associate members.

With its immediate problem of price stabilization pretty well in hand, the in-

(Continued on page 54)

This merchandising discussion which appears regularly on this page considers various branches of the textile industry from week to week. It analyzes significant marketing trends or developments in those branches. While it covers current movements, its conclusions concern potential future significance of those movements, rather than the effect of temporary fluctuations in trade sentiment.

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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Cotton Yarns Resist Decline

THERE is little change in the cotton yarn market as far as demand is concerned and little encouragement. Continued efforts are being made by certain factors to secure business by making price concessions or soliciting offers from manufacturers who are usually not interested in buying, and consequently cannot be expected to make any offer seriously. The market has a favorable feature in the increasing number of dealers who refuse absolutely to cut prices to ridiculously low levels. They frequently refuse to submit to their mills some of the offers.

Another favorable factor is the increasing tendency of spinners to close their mills rather than accept abnormally low offers. Spinners have occasionally accepted business in order to give work to their help, but this cannot be continued indefinitely. One spinner stated that if he accepted an offer of 13½c. for 20s-2, he would have to buy his cotton at 3c. to break even, and yet some business has been placed on that basis. Another indication of irrational sacrifice in a frantic effort to book business is found in a recent sale of a stock dyed yarn at a price only 4c. above the cost of white yarn. This price was 6c. under a quotation from a competitor, to whom the buyer had already offered the sale at a 2c. concession. The final seller could as easily have secured the additional 4c. if he had better knowledge of the situation and better merchandising perception. The customer was surprised at his bargain, but felt it was no concern of his if the spinner lost. Such buyers not only endanger the stability of their source of supply, but also cheapen their own product by continually depressing yarn prices.

Yarn deliveries in certain quarters are reported as showing improvement. Here and there manufacturers are taking in yarn where deliveries had been held up for some time. Heavyweight underwear mills are represented in this class but lightweight lines are quiet. Offers of 10c. for 10s framespun were not even submitted, with 11½ to 12c. noted as a rule and 18s at 13½c. to 14c. Weaving yarns are quiet with 20s-2 selling around 14c. for good yarns, although as previously noted, 13½c. has been accepted in a few instances; 30s-2 average warps sold at 17½ to 18c. Specialties here and there offer bright spots, as instanced by one mill actively producing cotton striped flannels for the southern trade.

Combed yarns show little change, with scattered demand and some price fluctuations although average mill prices hold fairly close to levels listed on page 56. There is such a small volume of trading that it is hard to state where prices stand. Mercerized yarns continue in the same position they have occupied for the last few weeks. New business is limited, but deliveries continue in fair volume.

◆Cotton Quiet With Narrow Fluctuation

THE cotton market has been quiet for the greater part of the week, and prices have fluctuated irregularly within a range of some 20 or 25 points. The early month advance on covering and a somewhat increased commission-house or trade demand promoted by increased optimism over prospects for constructive legislation in Washington, evidently left the market in rather an easier technical position. This was reflected by reactions which carried the price of July contracts off from 5.90 on May 7 to 5.59 early last week. Since then trading has been quiet enough to suggest a more or less general disposition to await further developments in Washington or fresh incentives either in respect to the coming crop outlook or in the cotton goods markets. No southern selling pressure of importance developed but a belief that the crop has been making fairly good progress together with the disappointing action of the stock market, has restricted buying and if anything, prices have shown a tendency to work slightly lower with July working off to within 9 points of the season's low record for that position.

While still running ahead of last year's figures, exports have tapered off this month, and domestic consumption for April, according to the Census Bureau, amounted to 367,280 bales against

(Continued on page 52)

Market Briefs

Cotton: Quiet market with narrow fluctuation.
Cotton Yarns: Spinners fighting against price pressure.
Cotton Goods: April statistics unfavorable; market quiet.
Wool: Mills disinterested but dealers more optimistic.
Worsted Yarns: Market affected by rumor, needs clearing house.
Woolen Goods: Summer lines moving; no fall interest.
Silk: New 5-10c. drop in prices.
Silk Yarns: 55c. break in spun silk prices. Fair thrown yarn activity.
Silk Goods: Moderate call for novelty sports fabrics.
Rayon: Sales drop; output now 50%.
Knit Goods: Mesh hosiery knitters believe price weakness temporary; styled underwear for women active; temperature rise helps outerwear sales.

◆Worsted Yarns Need Stabilizing Effort

THE price situation in worsted yarns continues to present an erratic appearance. It seems to be the custom of many salesmen, wherever they find even the slightest intimation of interest in yarns, to solicit an offer. Once they have a price, no matter how ridiculous, they make every effort to trade with a concession as near as possible to the buyer's figure. It is impossible to stabilize the yarn market so long as this practice is allowed to continue. The customer practically writes his own ticket. Fortunately not all sellers are guilty of such lack of salesmanship. However, the few who are following the practice make it difficult, if not impossible, for the industry to extricate itself from the present unsatisfactory position.

Another unfortunate practice is the repetition of wild rumors and gossip as to low prices. It is unfortunate that there is no clearing house of information which would disprove some of the tales passed along. One story recently circulated was to the effect that while single 18s slub-dyed were selling at 85c., two or three important factors were offering yarns out of stock at 72½c. before the swim suit season closes. Market authorities wholly discredit this report, but salesmen still appear to be ready to believe everything a customer tells them.

Swim suit yarns find scattered activity, although there seems to be no real volume of shipments, despite nearness of the usual close of their season. An interesting development is noted in the fact that several of the smaller producers, unable to compete with the mass production of cheap lines at around $9.00 a dozen by the larger units, are turning to better quality lines with success. These knitters are making their goods out of half-blood and three-eighths blood yarns. They find production better, with less waste and a higher quality output. Their yarn may cost them about $1.25 more a dozen, but they are selling their goods at around $15.50 a dozen, so that they enjoy a wider margin by getting $5.00 more per dozen. One mill has also turned over to the use of two-ply yarns, using 2-32s in a heavier garment, which is a much better quality product, commanding a price of about $22.50 per dozen.

The delay in securing deliveries of slub-dyed yarns because of belated orders is causing more interest in two-ply skein-dyed yarns. Spinners usually are sidestepping deliveries of these yarns already dyed. They see no reason why they should carry the burden of losses in dyeing, etc. Daily business

YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

in knitting yarns to meet immediate requirements continues slow, and is only a fraction of the usual demand. Weaving yarns continue dull with little interest at varied prices as manufacturers are waiting for volume business.

◆Mill Interest in Wool Still Apathetic

SENTIMENT has improved slightly, although manufacturers have not been in the wool market for sizable quantities during the last two months. Mill buyers show scant interest in wool, having apparently all they need and seeing no advantage in buying ahead even at current low prices. Sales are so few and so small, that the prices recorded offer little basis for dependable quotations. The general depression prevailing in the United States has centered in the New York goods market and from that point radiated throughout various branches of the wool industry. Raw wool nevertheless is not only well below pre-war levels but also below cost of production.

Confidence among wool dealers in general resumption of mill activity in the near future seems to have suffered a set-back owing in part to rumors prevalent in manufacturing circles that mill operations are facing further curtailment. There was nothing during the first quarter of the year when broadloom activity was 53.2% as against 55.2% in 1931 to indicate the sharp decline that undoubtedly took place in April, but since then the situation shows no clearing and cloth production (excepting for a possible spurt in woolens) is headed for unusually low output.

While demand for worsted wools is negligible at the moment, a better feeling is developing regarding prospects for scoured and pulled wools as considerable business in woolen fabrics is believed to be pending. The consumption of pulled wools by mills reporting for the first quarter of this year shows a gain over last year of 2,068,000 lb. This increase was due largely to increased use of foreign pulled wools, which made a gain of 1,322,000 lb. while increase in domestic pullings was 546,000 lb.

The National Cooperative in warning growers that low advances being made must be considered in connection with existing strained economic conditions which demand careful and conservative handling of funds, claims nevertheless to be in a good position to handle a much larger percentage of this year's clip than in either 1930 or 1931. This bid for a larger share of the clip does not seem to be based either on past performance or current prospects. The National took 33% of the 1930 clip and 29% of the 1931 clips, and to date indications are wanting that the Cooperative will handle as much wool this year as in 1931.

◆Substitutes Sense Impending Mill Call

WHILE there is a little better feeling in reworked wool circles on the expectation of woolen mill business in the near future, nothing has yet materialized and the market is grounded on the low of the year, both as to price and volume. Movement in new clips has been confined to dark and mixed worsteds both of which grades have been bought by two or three mills. There is some call for fine light worsted jerseys and for fine imported underwear clippings of which additional importations are noted, the value being 37 to 39c.

The noil market is expecting a resumption of demand in the near future from mills that earlier in the year were large buyers, particularly of merino grade. Fine noils are at 48% of average 1926 value, while the fine wool of which it is the byproduct is at 45% of 1926. Fine noils are still held at 37 to 38c. for good white types, while Australians are held around 40c. Half-blood noils are 32 to 34c. for good to choice lots.

The wool waste market is becoming involved in the unusual dullness seen in wools and the general trend of prices has been toward slightly lower levels. Choice white worsted wastes are far from plentiful and therefore firm. Demand has improved for the very best spinnable white card on a basis of 24 to 25c. Second-rate card wastes can be bought down to 18 to 19c. Fine garnetts are meeting with a slightly better call.

◆Rayon Sales Drop; Shutdown an Issue

THE main issue in the rayon industry this week was: just how far can the producers curtail output without actually closing their plants? Demand for rayon yarn is declining steadily, and there has been further reduction of output during the last ten days, bringing the average to slightly above 50%; it was regarded likely that the larger companies might go below 50% very shortly. However, the possibility of a shutdown as alternative is still being considered, and some executives are strongly advising such action. The main problem in that regard, of course, is a mechanical one; the plants have never shut down before, and producers are undecided as to which would prove the sounder move economically—the shutdown, or a below-half capacity operation.

Meanwhile there is a fairly steady influx of small miscellaneous orders for yarn, all spot. Business is of the piecemeal type, but there is no accumulation of stock, so far as can be learned. Knitters are placing about 40% of normal business. Weavers are very quiet, broadgoods production having been materially reduced. Occasional moderate-sized contracts are placed by the hosiery mills. Market tone is good and prices of standard rayon yarns are steady.

◆Spun Silk Prices In Sharp Break

A SHARP break in prices at the end of last week created a condition of buyer uncertainty in the spun silk market. The reduction was drastic; it averaged 30c., and was understood to be due to liquidation pressure among the spinning mills; there was no appreciable change in the price of silk waste. Broadsilk manufacturers increased their orders slightly for the first few days following the reduction, but this activity was brief.

A spirited call for 3-thread Japan crepe, 78% on bobbins, selling at about $1.90 brought some cheer to the thrown silk industry this week. The demand came mostly from Paterson weavers, who placed substantial commission business, entirely on a spot business. These weavers are operating day and night on certain summer broadsilk fabrics. Prices in this division are steady, and throwsters who can fill orders quickly have no difficulty in getting the 3-thread business. Elsewhere thrown silk is quiet.

◆Japanese Conditions Bring New Silk Drop

THE silk market's sorry plight was further aggravated this week by the multiplicity of political disturbances in Japan which weakened an already uncertain currency there and resulted in a new decline in raw silk prices on both sides of the Pacific. The quotations in New York dropped 5c. on 20/22s and 10c. on 13/15s and there was little buying by any of the silk-consuming industries. Importers in New York regarded the outlook as exceedingly doubtful. Broadsilk mills are operating lightly and are marking time as regards raw silk purchases.

Drastic steps toward curtailment of hosiery production during the last ten days has cut demand from this quarter to a nonentity. The one bright spot on the horizon was the improved weather; a real heat spell descended on the Eastern States this week, stimulating consumer interest in summer apparel.

Importers are rather inclined to expect a good June, pointing out that while that month is normally quiet, the upset condition today renders all previous rules obsolete. The very low stocks in stores is their big argument in predicting an improvement.

FABRIC MARKET REPORTS

TEXTILE WORLD ANALYST

◆Cotton Curtailment Need Made Evident

THE regular monthly statistical report issued by the Association of Cotton Textile Merchants last Tuesday reflected the adverse turn of events in cotton gray goods which had showed themselves somewhat earlier in the decline of prices to new lows around the first of May. Shipments for April were 79% of production and sales during that month amounted to only 49.9% of production. As a result the month closed with stocks 16.6% higher than four weeks previous and unfilled orders 21.5% less. Although stocks are larger than reported for any month since May 1931, they are not out of reason. They are, however, a burden on the market in view of the fact that unfilled orders are at the lowest point ever reported in the history of these statistics.

The situation disclosed by these figures should make it clearer than ever that radical curtailment is the only means for safety available at present for the gray goods branch of the industry. Plans are under way for a 50% shutdown during the summer on the part of many mills, and any who may have doubted the necessity for this action may change their viewpoint after this demonstration.

Current activity in gray goods is at low ebb. Buyers are showing some interest in contracts at the same low price basis as is possible for spot goods, but mills are quite generally resisting this pressure. It is said that 64x60s have sold for June and July at 3⅛c. while spots have moved at ⅛c. less. Carded broadcloths have been quiet and it is said that 4⅜c. has been accepted for 37-in., 4.10-yard, 100x60s. Sheetings also have been quiet with inquiries limited to lots of a few thousand yards.

Fine and fancy cottons have met some improvement of inquiry but business accomplished has been small. The warm weather early this week is counted upon to stimulate retail movement which may later be reflected by better business in the primary market. There has been better interest in dotted swiss, and rayon taffetas continue to attract spot interest for small lots.

Percales and printed rayon crepes have experienced better call from retailers. A similar revival of interest in towels is noted, but in none of these fields has the total volume been very great. All seasonal fabrics are backward and it is very doubtful whether the current advent of summer weather will do much more than reduce retailers stocks without encouraging much replacement.

Mills and converters are holding back the showing of fall goods because of the lethargy of the retail trade, but chain stores and catalog houses which must buy early are being given private showings of a limited number of lines. At present the relative stability of cotton is helping to improve the tone of the goods market but there is no assurance that this condition will continue. The indicated crop is too large for ready absorption by the trade under present conditions, but the good chance that the boll weevil will do greater damage than for many seasons is a retarding influence in any price recession.

◆Novelty Broadsilk Trend Shown

AN IMPORTANT trend toward novelty summer fabrics was noted in the call for broadsilks this week. Numerous Madison Ave. houses who are style leaders in the New York market reported active demand for a wide range of sport fabrics. In the general lines printed chiffons appeared to be clearing, and there was plenty of stock, even including high-grade and styleright fabrics, available at a price. The most popular of the spring prints still hold to list levels, but weavers are getting rid of them steadily and it is believed that this stock will be cleared very soon. There is a growing interest in plain sheers; both cutters and retailers place considerable business at that end. The call is invariably spot, and usually for pastel shades.

Washable crepes are active with uneven buying. Chalk crepes made of pure-thread silk, are selling ahead of production, it is claimed, and further demand is expected if the warm weather of the last few days continues. Cutters also show interest in plain flat crepes. Weavers regard the current tendency toward clearing stocks as a helpful element which together with propitious weather should make for better movement of new lines at the end of the month.

◆Summer Shutdown Faces Wool Weavers

THE favorable weather turn of the last ten days has given a mild fillip to call for certain summer wool goods, such as flannels and ultra lightweight suitings, but the woolen and worsted industry as a whole did not register any real improvement. Fall suitings remained a very uncertain proposition, with only nominal interest manifest among buyers. Suitings prices appeared to be holding their own; one important house announced a reduction over the week-end, but as this firm's list had been above average, the change had no effect on the market.

There has been a smattering of orders for summerweight suitings and for women's wear fabrics and most of the warm weather flannels, but the total is only fair. Clothiers are operating almost on a manufacture-to-order basis, and refuse to anticipate demand in even the smallest degree.

Prospects point to an almost complete cessation of operations by the entire wool goods industry during the next two months. Estimates by New York agents in the Fourth Avenue districts put current operation at about 15% of capacity, and they looked for a sharp drop from this figure during the next few weeks, asserting that "fall suitings seem to be quite dead just now."

▸Philadelphia Textile Alumni Announce Program

Details are announced for the annual celebration held by the Alumni Association of the Philadelphia Textile School, in connection with the graduation exercises. The annual business meeting of the association will be held Thursday, June 2 at the school, with the usual luncheon preceding the sessions. Papers will be presented by members as follows: "Manufacture of Linen Thread," Clarence L. Ederer, '17; "Dyeing of Silk-Cotton Hosiery," Joseph E. Goodavage, '21; "Frame Spinning of Woolen Yarn," Howard P. Galloway, '31.

The annual cruise will include a day at the Manufacturers' Country Club, Oreland, Pa., with the ninth annual association handicap golf championship, and the annual baseball game between the single and married men as the features. The festivities will be concluded by the 31st annual banquet at the Manufacturers' Club, Broad and Walnut St., Philadelphia. The speaker of the evening will be Charles Aubrey Eaton.

▸Milfair Hosiery Co., Inc. New Sales Company

A new hosiery selling organization has been formed under the name of the Milfair Hosiery Co., Inc., with offices 385 Fifth Ave., New York, including a complete show room. They will have full charge of distribution for the Mayfair Hosiery Mills, Inc., Philadelphia. This mill is now making women's 45-gauge full-fashioned hosiery, specializing in three and four-thread, as well as mesh hose. S. Z. Stone, who has been associated with the Mayfair mill for five years, selling the production from Philadelphia, will head the selling company. This company will also handle the full-fashioned, five-thread chiffon and seven-thread service weight hose of the Milroy (Pa.) Hosiery Mills, Inc.

KNIT GOODS MARKETS

TEXTILE WORLD ANALYST

◆Outerwear Shows Slight Improvement

WARMER weather brought cheer to the outerwear industry this week, and a slight acceleration was noted in orders; the real reaction of distributors to the higher temperatures is not expected to show for a few days, however. Market tone holds steady, and swimsuits are moderately active. Fair-sized orders for both novelties and staples were placed. Bathing-suit novelties are somewhat of an enigma; sales executives who have just returned from western trips report acute interest in the latest styles and a tendency away from staples. New York factors, however, remain convinced that the bulk of buying will be in the more conservative models, arguing that consumers, being economy-minded, will want suits which would not go out of date quickly.

Swimsuit prices hold steady all along the line, and stocks are reported to be light, despite the fact that during recent weeks mills have substantially increased their output. Some important swimsuit houses are operating day and night at capacity. One such firm claims that it is producing to order only; this company reports spirited buying of advanced styles.

Men's summerweight sweaters are in good call, interest centering on crew-neck striped pullovers. All orders are small and for spot shipment. Women's sweaters show improvement but there is little real interest, except in the silk lines.

◆Mesh Hosiery Pick-Up Expected

MESH hosiery manufacturers were still waiting this week for the market to assimilate the clearing stocks of certain liquidating companies that brought about a price uncertainty by reducing to effect quick sale. Demand for full-fashioned novelties showed fair improvement during the last few days, but there is still considerable hesitancy among retailers and jobbers. The knitters are quite confident of the summer prospects and regard the recent reductions of mesh prices as nothing more than temporary.

Several aspects suggest early strengthening of the market. One of the country's largest hosiery firms is still selling two weeks ahead, and claims a good price tone on all mesh lines retailing at between $1.25 and $1.75. Makers of plain full-fashioned also note a steady call, though prices are not as firm as might be. White mesh full-fashioned for summer has been offered by numerous important mills; weather conditions have held back movement of these lines, but moderate summer business is being placed.

Men's sox are backward, due largely to weather. There is more merchandise available than is healthy, and prices, especially on the cottons and rayons are very soft. Knitters of pure-silk full-fashioned half-hose are in a better position. Ordering of the quality lines is moderate but prices are steady and allow of a fair margin. A few important distributors placed immediate orders for silk half-hose this week, chiefly for the $7.50 numbers which retail at $1.00.

◆Women's Underwear Call Accents Style

UNDERWEAR manufacturers lean more each day to the belief that style will be the outstanding, if not the sole basis of selling in women's lightweight underwear during the next few months. This was evident in opinions expressed by important merchandising managers this week. Mills are exerting unusual effort in the development of mesh and other novelty effects, and the distributor response to these lines appears to confirm the judgment of the manufacturers. Silk mesh underwear for women enjoys good movement even now, when lightweights as a whole are fairly quiet.

Men's cotton and rayon underwear demand is uncertain, and there is considerably more stock available than the sales justify.

Sluggishness in lightweights has necessarily held back developments in fall merchandise. With the exception of a few standard brands, winter weights are inactive. The withdrawal of numerous lines from sale has helped tone, however; and there is possibility of more interest when these lines reopen in June.

▸Dr. Taylor Heads Hosiery Statistics Committee

Statistical data on hosiery underwear shipments and prices should be reported to the industry probably weekly, it was tentatively decided at the first meeting of the committee on statistics of the National Association of Hosiery and Underwear Manufacturers. The meeting was held May 11 in New York, and Dr. George W. Taylor, of the University of Pennsylvania, was elected chairman; other members are: Stanley B. Hunt, of Tubize Chatillon Corp., Virgil Jordan, McGraw-Hill Publishing Co. and George Sommaripa, Silk Association of America. Another meeting will be held next week, at which plans for procedure will be consolidated.

◆Raw Cotton Reports

(Continued from page 49)

508,691 for the same month last year. Domestic consumption and exports combined, however, exceeded similar distribution by about 11,000 bales for the month, and forwardings to spinners remain relatively heavy, amounting to 258,000 bales last week against 216,000 last year, according to New York Cotton Exchange figures, and for the season up to May 13, 11,457,000 against 9,158,000 last year. The revised figures of the Census Bureau on ginnings from the crop of 1931 were 16,628,874 bales, or 33,094 bales above the preliminary total in running bales. On the basis of these figures, combined with estimates of minor items in the supply and last year's carry-over of cotton of all growths in this country, it would appear that the supply indicated available for distribution during the remaining three months of the season would aggregate in the neighborhood of 11,970,000 bales against 8,615,000 last year. Of this excess of 3,360,000 bales, 2,750,000 will consist of Federal Farm Board financed cotton, which, accordnig to the present understanding, will be held until after the end of next season unless prices in the meantime reach about the 13c. level.

There have been fewer than the usual complaints of unfavorable conditions for the coming crop so far this spring. The last weekly report of the Weather Bureau said conditions had been rather unfavorable owing to need of warmer weather in most sections with moisture deficient in many sections of the Eastern Belt. On the whole, however, it appears to be generally agreed that cotton has reached the middle of May in good condition. According to one of the prominent crop reporting authorities 65.3% of the crop has been planted compared with 73% last year, and 5.8% has been chopped compared with 6.3% last year.

◆Cotton Wastes on Even Keel

LITTLE change has been noted in the cotton waste market. As for some time past, spinnable wastes are in fair demand and prices have held well due to lack of supplies. Peeler comber is the leading price stabilizer and there is no indication that stocks of this waste on the market will be increased, with the combed mills running at greatly reduced schedules. Business has been done on this waste at figures well over the present price of raw cotton.

Thread wastes meet with moderate demand, but stocks are such that prices are held at the low levels that have prevailed for some time. A better demand is anticipated.

TEXTILE FINANCIAL NEWS

TEXTILE WORLD ANALYST

♦Tubize Plan Passed; Bassill New Head

JOHN E. BASSILL, vice-president and general manager of Tubize-Chatillon Corp., was elected president, succeeding B. E. Slaughter, at a New York meeting of directors last Tuesday, which followed a meeting of stockholders at which all changes in the capital structure of the company as proposed by the management April 15, and noted in TEXTILE WORLD on April 30, 1932, were approved. The directors also elected E. R. Van Vliet, secretary and treasurer, to the post of vice-president and treasurer.

The stockholders were called to a special meeting, which followed their regular meeting and the recapitalization plan as approved by them provides for an exchange of securities as follows:

For each share of old Series A preferred stock the holder will receive 1 share of new Class A stock and ¼ share new common stock in settlement of accrued dividends; for each share of Series B old preferred stock, the holder will receive 1 share of new preferred stock; for each share of old Class A common stock (or voting trust certificate) the holder will receive ¼ share of new common stock; for each share of old Class B common stock (or voting trust certificate) the holder will receive ¼ share of new common stock and ⅛ share of new Class A stock in settlement of the differential.

Upon completion of the above plan, the Tubize Chatillon Corp. will have outstanding 25,000 shares of new 7% cumulative preferred stock of $100 par value; 135,715 shares of Class A stock —$7 dividend of $1 par value; and 293,350 shares of new common stock. The $2,000,000 American Chatillon Corp. First Mortagage 7% bonds will remain outstanding as heretofore. The voting trust agreement for the old Class A and Class B common stocks has been discontinued.

The directors of the company elected at the stockholders' meeting follow: A. R. Balsam, W. P. Barba, J. E. Bassill, H. S. Davis, M. H. Frey, S. Fusi, G. A. Hardwick, U. Mancini, J. W. Mettler, J. N. McCullaugh, G. H. Milliken, R. W. Scott, and R. L. Taylor.

At the regular annual meeting of stockholders the number of directors was reduced from 17 to 13.

Mr. Bassill's election as president constitutes another step in his rise to head of the third largest producer of rayon in this country. He is only 36 years old and started with the company in July 1920 as an accountant. He came to the main office of the Tubize company in October 1929, prior to which time his headquarters were in Philadelphia. The directors also elected Frank P. Huff, who had been assistant secretary, to the position of secretary.

The directors declared an initial quarterly dividend of 1¾% on the 7% cumulative preferred stock payable July 1 to stockholders of record June 20.

In his message presented at the stockholders meeting, which served to tell the company's condition, since no financial statement was issued, Roland B. Taylor, chairman of the board, reported gratifying sales results since the first of the year, with the nitro-cellulose and viscose process departments operating profitably. Mr. Taylor said the reason for the absence of a financial statement was that companies representing 70% of the industry's productive capacity, issue no statements.

According to Mr. Taylor costs were reduced in 1931. He said that the ratio of the current assets to the current liabilities of the company was five to one.

ALGONQUIN BREAKS NEARLY EVEN

The Algonquin Printing Co., of Fall River, experienced an operating loss for the year ended Dec. 31, 1931, of $113,790, but income from bonds and other securities reduced this figure so that the net loss for the year amounted to only $21,780. In the year previous the operating loss of $49,291 was more than offset by investment revenue and the company made a net profit of $32,537. It is understood that receipts amounted to approximately $2,600,000.

In August of last year the dividend rate on the 10,000 shares of stock was cut from a $20 annual rate to $12. Balance sheet for the 1931 year shows the company to have current assets of about $3,000,000 and only $12,000 of current liabilities. The surplus account for the year showed a shrinkage of $99,073, while inventory at $523,370 was at $147,411 less than in the previous year.

FINANCIAL BREVITIES

Climax Spinning Co., Belmont, N. C., at a special meeting of stockholders May 10, unanimously voted to reduce the capital stock of the company from $900,000 to $450,000. Following a similar plan unanimously approved by stockholders of the National Yarn Mills, Inc., also of Belmont, the capital stock of that company will be reduced from $606,000 to $303,000.

Standard Textile Products Co., Youngstown, Ohio, has approved a decrease in capital from $9,000,000 to $5,000,000. Company has closed its Girard, Ohio, mill permanently, concentrating production of that plant with mill at Clifton, N. J.

Widder Bros., Inc., New York, have been organized with a capital of $1,250,000, to take over and succeed to local company of same name with headquarters at 215 West 39th St., operating a silk mill at Emaus, Pa. John Jacob and Adolph Widder head the company.

Empire Worsted Mills, Jamestown, N. Y., are arranging for a bond issue of $193,000, proceeds to be used to handle obligations and for operations at the mill. Stockholders will subscribe to $75,000 and $118,000 will be absorbed by banks. A composition offer of 25% to creditors will be paid from the issue and it is believed that the plan avoids forced liquidation of the company. •

▶ Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended May 17:

	High	Low	Last Sale	Net Ch'ge
Adams Millis	18½	17½	18½	+½
*American Thread, pfd.	2½	2½	2½	—½
American Woolen	2½	2	2	—½
American Woolen, pfd.	23½	21	22½	+½
Belding-Heminway	3½	3½	3½	+⅛
*Blumenthal	1½	1½	1½	+⅛
Cannon Mills	15½	15	15½	+½
Century Ribbon	3½	3½	3½	—⅛
Collins & Aikman	4½	4½	4½	—1
Consolidated Textile	⅛	⅛	⅛	....
Duplan Silk	7½	7½	7½	—½
Durham Hosiery, pfd.	17½	17½	17½	—½
Gotham Hosiery	13½	11	12½	+½
Industrial Rayon	23½	21½	23½	+½
Kayser, Julius	6	5½	5½	—½
Kendall, pfd.	26½	25	25	—1½
*May Hosiery, pfd.	17½	17½	17½	....
Mohawk Carpet	7	6½	7	—½
Munsingwear	11	11	11	—1
Phoenix Hosiery	5	5	5	+1⅛
*Powdrell & Alexander	5½	5½	5½	....
*Propper-McCallum	1	1	1	—⅛
Real Silk Hosiery	4½	3½	3½	—⅝
*Tubize	2⅛	1½	1½	—½
United Piece Dye Works	7½	7½	7½	....

*Listed on Curb.

▶ Fall River Mill Stocks

(G. M. Haffards & Co., Fall River)

	Bid	Asked
Algonquin Printing Co.	150	160
Barnard Mfg. Co.	..	6
Berkshire (com.)	½	1½
Berkshire (pfd.)	5	8
Bourne Mills	..	12
Border City Mfg. Co.	..	3½
Charlton Mills	..	40
Davol Mills	1	2
General Cotton	½	1½
Luther Mfg. Co.	..	57
Merchant Mill	..	..
Narragansett Mills	..	2
Pepperell Mfg.	26	29
Pilgrim Mills	..	25
Richard Borden Mfg. Co.	1	..
Sagamore Mfg. Co.	..	..
Shove Mills	..	..
Stafford Mills	..	1
Stevens Mfg. Co. (pfd.)	7	12

▶ New England Textile Stocks

	Sale	Bid	Asked
Am. Mfg. Co., pfd.	50	44	..
Amoskeag	2	2½	2½
Arlington	10	8	10
Associated Textile	10	..	10
Bates	10	2	..
Berkshire Associates, com.	1½	1	..
Berkshire Associates, pfd.	40½	6½	..
Bigelow-Sanford, com.	9½	8½	..
Edwards	80½	..	25
Farr Alpaca	15	9	11
Hamilton Woolen	47½	50	55
Hill	7	2	5
Ludlow	48½	33	..
Merrimack, com.	3	3	6
Nashua, com	3½	1	4
Nashua, pfd.	29	..	14
Naumkeag	46	40	45
Newmarket	10	5	10
Otis	45	38	42
Pacific	6	5½	7
Pepperell	34½	25	28
Plymouth Cordage	39	33	36
West Point	25	24	27
York	8½	2	5

Remove Last Obstacle to Design Piracy Legislation

▶ *The favorable turn in prospects for legislation to suppress piracy of designs, noted below, marks an important forward step. Objections of retailers have been met in a bill which likewise promises effective protection for manufacturers. Although the conflicting groups have seemingly harmonized their ideas before, only to split later, this time there seems no doubt that a permanent basis for agreement has been reached.*—Editor.

BY winning the support of retail interests, the textile manufacturers have removed the last great obstacle to legislation to suppress piracy of designs. The agreement was ratified at a hearing before the House Patents Committee May 17 when Lew Hahn, vice-president of the National Retail Dry Goods Association, endorsed a proposal that would require compulsory registration of textile fabric designs before manufacture. The new bill will apply only to the textile industry without prejudice to the right of others to seek similar protection when they can eliminate opposition in their own ranks. After years of agitation for effective legislation against piracy of designs, only the textile industry has been able to present a united appeal to Congress and this did not come until the retailers withdrew their opposition this week.

The objections of the retailers were met by limiting the scope of the bill to fabric designs, by providing for search prior to registration and by permitting the retailer to move his stock of all alleged infringing goods acquired by him in good faith up to the time of issuance of a temporary injunction or restraining order against the manufacturer in any action for infringement brought by another manufacturer. The retailer would not be restrained from buying more of the infringing goods by posting bond or otherwise assuming responsibility for his action but he does so at his own peril. This provision was specifically agreed to by Mr. Hahn and Isaac Lande, counsel for the N. R. D. G. A., who will collaborate in framing the bill with Sylvan Gothal, counsel for the Silk Association of America, Karl Fenning, chairman of the joint committee on legislation of the American Bar Association and American Patent Law Association, and the attorneys for other organizations.

In creating a system for registration of textile designs in the Copyright Office, the bill will depart both from the theory of the patent law, in which invention rather than originality or novelty is the criterion, and from the copyright law which is not applicable to designs entering industrial use. Under the international convention for the protection of industrial property, the bill would accord the same protection to foreign as to domestic designers who register their work.

As next season's designs will soon be coming along, the group in charge of the bill hopes to obtain its prompt enactment. Favorable action by the Patents Committee is about all that can be expected this session, however. The Senate committee must be sold on the idea that has harmonized conflicting interests and action on the Senate floor is too much to expect in the present legislative jam even if the House should consent to take up the bill.

▶ Converters Form Group In Silk Association

Silk converters, who now comprise an important part of the silk industry, have organized as a division of the Silk Association of America, Inc., for the purpose of stamping out certain abuses which are detrimental to the best interests of the trade. Seventy-five members of the converting industry attended an organization meeting held at the New York offices of the Silk Association this week. The meeting was presided over by Sol. C. Moss, acting as temporary chairman. An executive committee was appointed and a program of activity will be mapped out at another meeting to be called soon. Officers will then be elected.

▶ Throwsters Institute Aids By Spiking Rumors

(Continued from page 47)

stitute is now branching out into other activities. An educational program is under way and bulletins on current conditions are sent out to members twice a week. These are of particular service to the smaller throwing plants which constitute a considerable part of the industry, and which are necessarily limited in their selling organization and cannot otherwise keep abreast of general conditions, prices, etc.

The claims department is another new function; the institute keeps a record of all claims submitted to throwing firms by customers, and the customers are advised by the institute of this record. The record enables the industry to identify the customers who make an inordinate number of claims, and also serves to identify those cases where claims are duplicated. Actual adjustment of claims is done by the throwsters, the institute's sole function being to record the claim, on notification from the throwster.

The institute also is working on a wage survey, which has just been authorized by the officers. The aim of this study is to collate data on hours of work per day and week, by day and night in all departments, and rates in all divisions. This is viewed as especially important since about 70% of what the throwster gets for his job is paid out in labor costs.

The institute hopes to go into other questions such as technical problems, credits, etc., later on. It was pointed out by Mr. Hill that much valuable work could be done in the way of bringing the throwster closer to the industries he serves. He should know the type of product his yarn is going into beforehand; thus, if it is for a high class market, quality will be a major factor and the customer will be glad to pay for the best type of throwing.

The broad problem of the Throwsters Institute is unusual, in that commission throwing is entirely a service industry. There is no investment in raw material; only in labor and equipment. The institute hopes eventually to improve quality of throwing, to reduce the amount of waste per pound and to make for more satisfactory and more profitable service by the throwing group as a whole.

The officers of the institute are: Henry J. Tynan, chairman; Charles J. Knowles, vice-chairman; Arthur G. Schautz, treasurer; and Dean Hill, executive secretary. The officers, with the following, comprise the board of governors: Sidney R. Bliss, Theodore F. N. Gray, Carlos A. Baer, Charles A. Raine, Nathan Lewis, Albert J. Pfeiffer, John Salandi, Jr., and A. S. Berliner.

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Business News

Franklin Institute Awards Medal to Toledo Scale Co. Engineer

The Franklin Institute, Philadelphia, has awarded a John Price Wetherwill Medal to Halvor Olsen Hem, consulting engineer of the Toledo (Ohio) Scale Co. The award was made on May 18, "in consideration of the ingenuity shown in perfecting scales of the pendulum type, improving their accuracy, reliability and sensitiveness, and for the application of these scales to specific purposes." Mr. Hem joined the Toledo Scale Co. in 1915. An award from the Franklin Institute is one of highest honors to which scientists aspire.

Homestead Valve Mfg. Co. Appoints Chicago Agent

The Homestead Valve Mfg. Co., Coraopolis, Pa., has appointed the Lietz Engineering Co., 2354 Lincoln Ave., Chicago, its exclusive agent in Chicago, for all its products including quarter-turn valves, protected seat hydraulic operating valves, and Hypressure Jenny, a vapor spray cleaning machine.

Poole Foundry & Machine Co. Organized

Poole Foundry & Machine Co. has been organized to carry on the business of the Poole Engineering & Machine Co., Woodberry, Baltimore, Md. The company was founded as Poole & Ferguson in 1843. S. P. Brady is president of the new company and L. M. Ricketts is secretary-treasurer.

Winslow Sampson to Represent Kron Co. in Pittsburgh

Winslow Sampson, for many years associated with S.K.F. Industries, has just been appointed the Pittsburgh district

manager of the Kron Co., Bridgeport, Conn. The Kron Co. manufactures a complete line of industrial scales. The Pittsburg offices will be located at 302 Penn Avenue.

G. L. Hurst to Handle Farrel-Sykes Gears in San Francisco

George L. Hurst, consulting mechanical engineer, San Francisco, is now handling the sale of the Farrel-Sykes line of gears, speed reducers, gear drives and gear cutting machines in the San Francisco territory. This equipment is manufactured by the Farrel-Birmingham Co., Inc., Buffalo, N. Y.

Reliance Electric Promotions

The Reliance Electric & Engineering Co., Cleveland, Ohio, direct and alternating-current motors, has promoted R. H. Smith of the Boston office to manager of the development engineering department with headquarters in Cleveland. C. E. Robinson has been advanced to fill Mr. Smith's former position as manager of the Boston district office.

J. S. Tritle Elected Vice-President of Westinghouse Electric Supply Co.

J. S. Tritle has been elected vice-president in charge of operations of the Westinghouse Electric Supply Co., wholesale distributor of Westinghouse products to electrical dealers, contractors and industrial establishments. He will assume his new duties immediately in addition to his present position, vice-president and general manager of the Westinghuse Electric & Manufacturing Co.

Arrange Patent Reciprocity

Notice has been sent out to the trade generally by the Dayton Rubber Mfg. Co., Dayton, Ohio, and the Allis-Chalmers Mfg. Co., Milwaukee, Wis., that the suit of the former against the latter in United States District Court at Cincinnati, involving Allis-Chalmers' Geist patent No. 1,660,511, pertaining to multiple V-belt drives, has been settled out of court by the contending parties effecting a mutually satisfactory working arrangement, under which Dayton takes a license under the Geist patent, and Allis-Chalmers can operate under the Short patent No. 1,538,303.

Watson Heads Link-Belt Indianapolis Plants

James S. Watson, formerly vice-president in charge of Link-Belt Co.'s Dodge Works, Indianapolis, has been appointed vice-president and general manager of both the Dodge and the Ewart Works, the company's two Indianapolis chain factories, thus succeeding George P. Torrence, who was recently elevated to the presidency.

Frank S. O'Neil, heretofore manager of the company's Ewart Works, has been appointed assistant general manager of both Indianapolis plants.

C. Walter Spalding, who has been connected with the Ewart Works for a number of years, has been appointed sales manager of Ewart plant products.

Cherington's Wool Distribution Report Now Available in Book Form

THE report "The Commercial Problems of the Woolen & Worsted Industries" prepared by Paul T. Cherington for The Textile Foundation became available this week in book form. As noted previously in these columns, the report gives a program of economic reforms that should be first consummated within the industry. It suggests two forms of planning activity for the industry as a whole, and in addition emphasizes the necessity for individual mills to interpret currently their own experience in terms of operating plans for the immediate future on the basis of probability curves developed out of past records.

The book is significant, not only because it suggests a program of betterment under ten difinite headings, but also for the cross-section picture of conditions in the woolen and worsted industries which it presents.

The chapter headings, as indicated below, give an idea of the book's scope.

The fundamental characteristics of wool textile production and consumption in the United States.

Relation between mill problems and marketing problems of wool fabrics.

Consumption problems which disturb the distribution operations.

The mechanism of textile distribution: Selling houses, agencies, cutting trades, apparel chain stores, specialty shops.

The factors in wool textile distribution which are not subject to betterment at this time.

The factors which may be materially improved.

The points of control and the methods of control in textile marketing.

The basis of improvement in wool textile distribution.

Joint action and individual action in the betterment of distribution of textiles.

A program for improvement.

Several appendices give valuable statistical and factual data on the industry. The book may be secured from The Textile Foundation, Inc., Commerce Bldg., Washington, D. C., at $2.50 per copy.

▸ N. C. Hosiery Men Hear Constantine

Hosiery manufacturers of North Carolina met with Earl Constantine, managing director of the National Association of Hosiery and Underwear Manufacturers, at the Sedgefield Inn, near Greensboro, N. C., May 7, and heard the details of a plan to remedy certain outstanding evils in the knitting industry. Mr. Constantine proposed that all mills adopt a simple system of unit cost accounting and that they cooperate in the interchange of data on unfilled orders, sales volume, prices, costs and other phases of manufacturing and merchandising. William H. May, president, May Hosiery Mills, Inc., Burlington, N. C., a director of the national association, introduced Mr. Constantine. Mr. May was assisted in arranging for the meeting by: J. E. Millis, of Adams-Millis Corp., High Point, N. C.; C. W. Gaddy, of the Wiscassett Mills Co., Albermarle, N. C.; and R. O. Huffman, of the Morganton (N. C.) Full-Fashioned Hosiery Co. Approximately 60 manufacturers attended the dinner.

▸ Quality Keynote of Retailers' Meeting

Plans for utilizing the current strong consumer trend to quality merchandise in retail promotion will be considered by the Merchandise Managers' Division and Sales Promotion Division of the National Retail Dry Goods Association when these groups meet at the Hotel Commodore, New York City, on June 21 and 22. These dates were chosen so that delegates could also attend the convention of the Advertising Federation of America, which will be held at the Hotel Waldorf-Astoria, June 20-24. At the retailers' session the "quality movement" will be emphasized, as a means of increasing consumer goodwill, reducing returns, and raising the average sales-check.

▸ Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended May 14, based upon data compiled by Dept. of Agriculture, follow:

	Week Ended May 7	Total to Date 1932	Total to Date 1931
Domestic	3,005,000	22,990,000	42,707,000
Foreign	82,300	11,145,300	21,894,000
Total	3,087,300	34,135,300	64,601,000
IMPORTS AT PRINCIPAL PORTS			
Boston	82,300	11,145,300	21,894,000
Philadelphia	217,000	8,666,000	17,290,000
New York	595,000	11,232,000	21,080,000
Total	894,300	31,043,300	60,264,000

▸ Fashion Favors Fabric Hats

A forecast of hat styles was given by Maud G. Moody, millinery editor *Women's Wear Daily*, at the monthly meeting of the New York Fashion Group at the Ambassador Hotel, New York recently. Mrs. Moody stressed the importance of fabrics in hats; reports from Paris read at the meeting indicated that fabrics will continue to dominate as hat materials.

Richardson Wright, editor of *House & Garden*, delivered an amusing address entitled "Goldfish on the Bathroom Wall." He stressed, through entertaining and apt simile, the return to quality buying, "which allowed our grandmothers to retain their less frequent purchases."

QUOTATIONS

at close of business, May 18, 1932
Prices cover average qualities unless otherwise stated

Cotton Goods

	May 18	May 11	May 20 1931
PRINT CLOTHS			
37 -in., 64x60, 7.60	2½c.	2½c.	3½c.
38½-in., 64x60, 5.35	3 1/16-3¼c.	3¼c.	5 c.
39 -in., 68x72, 4.75	3½c.	3½c.	5¼c.
39 -in., 72x76, 4.25	4¼c.	4¼c.	6½c.
39 -in., 80x80, 4.00	4½c.	4½c.	6¾c.
BROWN SHEETINGS			
36-in., 56x60, 4.00	3¾-3¾c.	3¾-4 c.	5½c.
36-in., 48x48, 3.00	4¼c.	4¼-4½c.	5¾-5¾c.
37-in., 48x48, 4.00	3½c.	3½-3¾c.	4¾-5 c.
PAJAMA CHECKS			
6½-in., 72x80, 4.70	4 c.	4¼c.	6 -6¼c.
6 -in., 64x60, 5.75	3¾c.	4 c	4¼-4¾c.
MISCELLANEOUS			
Drills, 37-in., 3 yd..	4½c.	4½c.	6¾c.
Denims, 2.20	9½c.	9½c.	12 c.
Tickings, 8 oz.	11 c.	11 c.	15½c.
Standard prints	6¼c.	6¼c.	7½c.
Eastern staple ginghams, 27-in.	6 c.	6 c.	8 c.

Cotton Waste

Peeler comber	5¾ - 6¼
Peeler strips	5 - 5½
Sak. comber	5 - 5¼
Choice willowed fly	2½ - 3
Choice willowed picker	2 - 2½
Sak strips	6½ - 7
Linters (mill run	1½ - 2
White spooler (single)	3½ - 4

Cotton Yarn

CARDED (Average Quality)
Double Carded 2c.—4c., higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.12	22s	$0.15
10s	- .12	24s	- .15½
12s	- .12½	26s	- .16½
16s	- .13	30s	- .18
20s	- .14	40s ex. qual	- .25

TWO-PLY SKEINS AND TUBES

8s-2	$0.11½ - .12	26s-2	$0.16½
10s-2	- .12½	30s-2	17½ - .18
12s-2	12½ - .13	36s-2	- .22½
14s-2	- .13	40s-2	- .23½
16s-2	- .13½	49s-bi.brk	- .25½
20s-2	13½ - .14	50s-2	- .29
24s-2	- .15½	6ps-2	- .32

SINGLE WARPS

10s	$0.12	24s	$0.15½
12s	- .12½	26s	- .16½
14s	- .12½	30s	- .18
16s	- .13	40s ex. qual	- .24½
20s	13½ - .14		

TWO-PLY WARPS

8s-2	$0.12	24s-2	$0.15½ - .16
10s-2	- .12½	26s-2	16½ - .17
12s-2	- .13	30s-2	17½ - .18
14s-2	- .13½	49s-2 ordin.	- .23½
16s-2	- .13½	50s-2	- .29
20s-2	13½ - .14½	60s-2	- .32

8s-3 and 4-ply skeins and tubes; tinged, 10½; white, 11½; waste, 10

HOSIERY CONES (Frame Spun)

8s	$0.11 - .11½	22s	$0.15
10s	.11½ - .12	24s	- .15½
12s	.12½ - .13	26s	- .16
14s	.13 - .13½	30s tying	- .17
16s	- .13½	30s reg	.18 - .19
18s	.13½ - .14	30s ex.qual.	.19½ - .20½
20s	.14 - .14½	40s	- .24

COMBED PEELER (Average Quality)

TWO-PLY — (Knitting Twist) Cones

20s-2	$0.25	60s-2	$0.38 - .39
30s-2	.27 - .28	70s-2	.49 - .50
36s-2	.28 - .29	80s-2	.59 - .60
40s-2	.29 - .30	90s-2	.85 - .87
50s-2	.32 - .33	100s-2	.98 - 1.05

WARP SKEINS AND CONES

TWO-PLY — (Warp Twist)

20s-2	$0.26	60s-2	$0.39 - .40
30s-2	.28 - .29	70s-2	.50 - .51
36s-2	.29 - .30	80s-2	.60 - .61
40s-2	.30 - .31	90s-2	.85 - .90
50s-2	.33 - .34	100s-2	.95 -1.02

SINGLES

12s	$0.18 - .19½	30s	$0.23 -0.25
14s	.19 - .19½	38s	.27½ - .28
16s	.19 - .19½	40s	.29 - .30
18s	.19 - .20	50s	.33 - .34
20s	.20 - .21	60s	.37 - .38
24s	.20 - .21½	70s	.47 - .48
28s	.23 - .24	80s	.57 - .58

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.42 -0.44	90s-2	$0.95
30s-2	.43 - .45	100s-2	1.20-1.25
36s-2	.45	120s-2	1.55-1.60
40s-2	.47	30s	.49- .51
45s-2	.48	40s	.54- .56
50s-2	.50 - .52	50s	.60- .62
60s-2	.55 - .57	60s	.65- .68
70s-2	.69	70s	.77- .80
80s-2	.79	80s	.92- .96

Cotton Prices and Statistics

COTTON STATISTICAL DATA

(Fluctuations of Futures)

	Closed May 12	For Week High	For Week Low	Closed May 18	Net Ch'ge
May	4.54	5.68	5.48	5.61	+1.07
June	5.58	5.75	5.55	5.65	+0.07
July	5.63	5.81	5.54	5.70	+0.07
August	5.70	5.88	5.67	5.77	+0.07
September	5.78	5.96	5.75	5.86	+0.08
October	5.86	6.05	5.78	5.94	+0.08
November	5.93	6.11	5.91	6.01	+0.08
December	6.02	6.19	5.93	6.08	+0.06
January	6.09	6.23	6.02	6.16	+0.07
February	6.17	6.34	6.14	6.23	+0.06
March	6.26	6.43	6.16	6.30	+0.04

SPOT FLUCTUATIONS FOR WEEK

(Middling)

	New York	New Orleans	Liverpool
Thursday, May 12	5.70	5.67	4.61
Friday, May 13	5.65	5.67	4.58
Saturday May 14	5.65	5.64	....
Monday, May 16	5.85	5.84	....
Tuesday, May 17	5.65	5.67	4.60
Wednesday, May 18	5.75	5.74	4.53

FOREIGN COTTONS

Egyptian Cotton

Alexandria, Exchange, May 17.		Change
May-Sak	11.15	+1.13
June Uppers	9.25	+0.68
May-June Shipment c. i. f. Boston (Tariff not included)		
Fully good fair Sak (No. 38)	....	11.75
Fully good fair to good Uppers (No. 10)	...	9.65

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cents
Peruvian Tanguis Strict Middling	16
Peruvian Pima No. 1	15½
Peruvian Moderate Rough	10
Peruvian Full Rough	16
China Tientsin No. 1	8
India Rough	7 to 10
India Smooth	6½ to 7½

(By Lehman Bros.)

MOVEMENT INTO SIGHT

	This Year	Last Year
Week	67,000	87,000
Season	14,102,000	12,637,000

WORLD VISIBLE SUPPLY

	May 13	One Year Ago
Interior towns and ports of U.S.*	5,569,000	4,428,000
Afloat to and at ports of Europe	1,340,000	1,659,000
Afloat to and at ports of Orient	903,000	443,000
Total	7,812,000	6,530,000
	Decrease	Decrease
Change during week	191,000	129,000

*Includes afloat to New York.

FORWARDINGS TO MILLS OF WORLD

	This Year Week	This Year Season	Last Year Week	Last Year Season
No.States,U.S.	7,000	686,000	22,000	784,000
So.States,U.S.	39,000	3,782,000	58,000	3,374,000
Total U.S.	46,000	4,468,000	80,000	4,158,000
Great Britain	32,000	1,102,000	21,000	747,000
Continent	92,000	2,971,000	67,000	2,899,000
Orient	85,000	2,758,000	45,000	1,144,000
Canada and other America	3,000	158,000	3,000	190,000
Total foreign countries	212,000	6,989,000	136,000	4,980,000
World total	258,000	11,457,000	216,000	9,138,000

EXPORTS FROM UNITED STATES

Total	89,000	7,601,000	64,000	6,108,000

AVERAGE PRICE MAY-JUNE, SHIPMENT HARD WESTERN COTTON

	F.o.b. New England Middling	St. Middling
1 —in	7½-7¾c.	7¾- 8c.
1½-in	7¾-8c.	8¼-8¾c.
1 —in	8¼-8¾c.	8¾-9c.
1¼-in	10¾-11c.	11¾-12c.

Based on New York, July, 5.60.

SPOT FLUCTUATIONS AND STOCKS

Markets	May 11	May 18	Sales	This Week	Last Year
Galveston	5.70	5.65	3,150	626,866	536,248
New Orleans	5.73	5.74	3,794	1,041,155	691,138
Mobile	5.35	5.40	869	167,315	251,087
Savannah	5.67	5.69	2,030	238,138	355,369
Norfolk	5.65	5.70	534	52,337	77,168
New York	5.75	5.75	10,666	204,627	227,062
Augusta	5.50	5.50	778	109,361	77,283
Memphis	5.05	5.10	4,102	340,933	206,492
St. Louis	5.00	5.10	.....	.....	5,982
Houston	5.65	5.60	1,657	1,274,003	949,828
Dallas	5.25	5.25	3,666	18,742	8,409

DIFFERENCES ON AND OFF MIDDLING

WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	0.60†	.75†	0.65†	0.63†	0.65†
S.G.M	.45†	.50†	.55†	.56†	.52†
G.M	.35†	.40†	.40†	.38†	.38†
S.M	.25*	.20†	.25†	.19†	.22†
S.L.M	.25*	.20*	.25*	.25*	.23*
L.M	.50*	.50*	.50*	.63*	.50*
S.G.O.**	.85*	.75*	.85*	.88*	.82*
G.O	1.00*	1.00*	1.15*	1.25*	1.12*

YELLOW TINGED

G.M	0.25*	0.25*	0.25*	0.25*	0.26*
S.M	.35*	.40*	.35*	.50*	.39*
M.**	.50*	.50*	.50*	.63*	.52*
S.L.M	.90*	.90*	.85*	.88*	.88*
L.M	1.25*	1.25*	1.15*	1.25*	1.24*

YELLOW STAINED

G.M	0.50*	0.55*	0.50*	0.50*	0.50*
S.M.**	.90*	.90*	.85*	.88*	.87*
M.**	1.25*	1.15*	1.15*	1.25*	1.22*

BLUE STAINED

G.M.**	0.65*	0.60*	0.50*	0.63*	0.58*
S.M.**	1.00*	.80*	.85*	1.00*	.91*
M.**	1.25*	.90*	1.15*	1.25*	1.18*

**Grades not deliverable on contract.
*Off Middling †On Middling.

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA
(IN GREASE)

Fine delaine	$0.17 – $0.18	¾ blood	$0.17 – .18
Fine clothing	.13½ – .14	½ blood	.16 – .17
¼ blood	.17 – .18		

TEXAS AND CALIFORNIA
(CLEAN BASIS)

Texas, 12 months	$0.41 – .43
California, Northern	.38 – .40

PULLED—EASTERN (CLEAN BASIS)

AA	$0.46 – $0.48	B-Super	$0.39 – 0.41
A-Super	.41 – .43	C-Super	.35 – .37

MONTANA, IDAHO AND WYOMING
(CLEAN BASIS)

Staple fine	$0.43 – .45
Staple ¾ bld.	.40 – .42
Fine and fine medium	.41 – .42
½ blood	.36 – .39
¼ blood	.31 – .34

MOHAIR—DOMESTIC

Best carding	.17 – .19
Best combing	.21 – .23

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.17 – 0.20
Cape usrts	.18 – .20

FOREIGN CLOTHING AND COMBING
(CLEAN BASIS IN BOND)

Australia:	
70s	$0.35 – 0.37
64s	.28 – .30
58s-60s	.23 – .25
(IN GREASE)	
Montevideo:	
58s-60s	$0.15 – .16
56s	.14 – .15
50s	.13 – .14
Buenos Aires:	
4s, 40-44s	$0.09 – .10
5s, 36-40s	.08 – .09

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.13 – 0.14
China: Combing No. 1	.10 – .11
China Filling Fleece	.09 – .10
Szechuen ass't	.10 – .11
Cordova	.08 – .09
Scotch black face (nominal)	nominal
East India: Kandahar	.13 – .14
Vican'r	.15 – .16
Joria	.15 – .16

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.67½ – .70
2-24s 40s	– .80
2-26s 44s	.80 – .82½
2-28s 46s	.85 – .87½
2-30s 48s	.90 – .92½
2-32s 50s	.92½ – .95
2-30s 64s fancy mixes	1.15 – 1.17½
(Single yarns 5c. less than above)	
2-36s 58s	1.00 – 1.02½
2-40s, 60s	1.10 – 1.12½
2-40s, 64s	1.12½ – 1.17½
2-50s, 66s	1.27½ – 1.30
2-60s, 70s	1.65 – 1.70

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	– .60
2-20s, 48s in oil	.62½ – .65
2-20s, 50s in oil	.65 – .67½
2-20s, 56s in oil	.77½ – .80
2-20s, 60s in oil	.95 – .97½
2-20s, 64s in oil	1.02½ – 1.05
1-18s, 48s dyed	.82½ – .85
1-18s, 50s dyed	.85 – .87½
(Oil yarns 17½c. less)	

FRENCH SYSTEM

1-20s, 58s	.87½ – .92½
1-20s, 60s	1.00 – 1.02½
1-18s, 64s, dyed	1.20 – 1.22½
1-26s, 64s	.97½ – 1.00
1-30s, 64s, Warp	1.07½ – 1.10
2-30s, 64s, Fancy mixes	1.17½ – 1.20
2-40s, 64s, Zephyrs	1.17½ – 1.20
1-50s, 66s	1.35 – 1.37½
2-50s, 66s	1.42½ – 1.45
2-60s, 70s domestic	1.80 – 1.85
1-60s, 70s, Australian	1.60 – 1.70
2-60s, 70s, Australian	1.77½ – 1.87½

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	.87½ – .90
1-40s, 50-50-60s on cops	.95 – .97½
1-40s, 50-50-64s on cops	.97½ – 1.00
1-40s, 50-50-64s Australian cops	1.10 – 1.15

Underwear mixes, 3 to 5c., Solid color, 35c. additional.

New York Top Futures

	Closed May 11	For Week High	For Week Low	Closed May 17	Net Ch'ge
May	55.50	55.50	54.50	54.50	—1.00
June	56.00	56.00	54.80	54.80	—1.20
July	56.00	56.00	55.00	55.00	—1.00
August	56.00	56.00	55.30	55.30	—0.70
September	56.50	56.50	55.50	55.50	—1.00
October	56.50	56.50	55.50	55.50	—1.00
November	56.50	56.50	55.50	55.50	—1.00
December	57.00	57.00	56.00	56.00	—1.00
January	57.00	57.00	56.30	56.30	—0.70
February	57.30	57.30	56.50	56.50	—0.80
March	57.50	57.50	56.80	56.80	—0.70

Tops and Noils

TOPS—BOSTON
(Nominal)

Fine (64-66s)	$0.65 – .67
Half-blood (60-62s)	.61 – .63
High ¾ blood (58s)	.54 – .56
Aver. ¾ blood (56s)	.51 – .53
Low ¾ blood	.50 – .51
High ½ blood (50s)	.47 – .49
46s S. A. and N. Z.	.46 – .48
44s S. A. and N. Z.	.43 – .45
40s S. A. and N. Z.	.40 – .42

TOPS—BRADFORD, ENG. (May 14)

Fine (70s)	22½d	¾ bld. (56s)	17 d
Fine (64s)	21½d	½ bld. (50s)	12 d
¼ bld. (60s)	20½d	Cross-bred (46s)	8½d

NOILS—BOSTON

Fine	$0.36 – $0.38	High ½ bld.	$0.26 – $0.28
Half-bld.	.32 – .34	Low noils	.20 – .23
Aver. ¾ bld.	.28 – .30	Medium colored	.18 – .20
Fine colored	.23 – .28		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.50 – .52
Lap, fine colored	.39 – .41
Hard ends, fine white	.40 – .42
Hard ends, ½ blood white	.25 – .28
Hard ends, fine colred	.17 – .19
Hard ends, medium colored	.13 – .15
Card, fine white	.23 – .25
Burr, fine carbonized	.24 – .26

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, coarse light	$0.04½ – 0.05
Merinos, fine dark	.02½ – .03
Merinos, fine light	.08½ – .09
Serges, blue	.03½ – .04
Serges, black	.03½ – .04
Serges, red	.06 – .07
Knit, white	.18 – .18½
Knit, red	.07 – .07½
Knit, light hoods	.08½ – .09½
Worsted, light	.03½ – .04
Worsted, blue	.04 – .04½
Worsted, black	.04 – .04½

Silk Yarns

THROWN SILK (60 day basis)
Prices Nominal

Japan organzine, 2 thd. spec. gd. XX sk. 85%	$2.55
Japan organzine, 2 thd. grand sk. 83%	2.45
Japan organzine, 2 thd. sp. crack. sk. 81%	2.35
Japan crepe, 3 thd. gd. XX bob. 83%	2.25
Japan crepe, 3 thd. sp. crack. bob. 81%	2.10
Japan crepe, 3 thd. Crack, bob. 78%	1.90
Canton crepe, 3 and 4 thd. 14/16 on bobbins	1.75
Hosiery tram, 3 thd. Japan 90%	3 20
Hosiery tram 5 thd, Japan, 85%	2.30
Hosiery tram, crack XX 78%	2.15

SPUN SILK YARNS (Terms: net 30)

40/2	$2.50	60/2	$2.75
54/2	2.65	62/1	1.85

Raw Silk

(60 Day Terms. Spot Goods)
Prices Nominal

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 87%	$1.60	$1.45	$1.45
Special Grand, 85%	1.50	1.35	1.35
Grand XX, 83%	1.40	1.30	1.30
Special Crack, 81%	1.30	1.25	1.25
Crack XX, 78%	1.25	1.20	1.20
Extra Extra, 73%	1.20	....	....
Best Extra, 68%	1.10	....	....

Canton filature, new style, 14/16	$1.05
Canton filature, new style, 20/22	1.95
Tussah filature, 8 cocoon	.55

NATIONAL RAW SILK EXCHANGE

	May 11	For the Week High	For the Week Low	Close May 17	Net Ch'ge
May	1.24	1.24	1.20	1.22	—0.02
June	1.24	1.24	1.20	1.20	—0.04
July	1.24	1.25	1.20	1.23	—0.01
August	1.27	1.27	1.21	1.26	—0.01
September	1.29	1.29	1.24	1.25	—0.04
October	1.29	1.29	1.25	1.26	—0.03
November	1.29	1.29	1.24	1.26	—0.03
December	1.29	1.29	1.24	1.25	—0.04

Total number of bales, 3,590. Total approximate value, $644,584.50. Trading unit crack XX 13/15 white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First	Second
30	8	$2.25	....
50	12-18	1.35	$1.25
75	18-30	1.20	1.10
100	18-40	1.00	.90
125	36-50	.90	.80
150	30	.72	.70
150	24-44	.75	.72
150	60	.85	.82
150	75-90	.85	.82
170	24-27	.75	.72
170	60	.85	.82
200	30-42	.75	.72
300	42-62	.63	.60
450	42-72	.63	.60
600	72-96	.63	.60
900	100-144	.63	.60

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	.85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	75	60	$1.30
25	24	2.85	80	60	1.30
30	24	2.60	100	75	1.10
40	30	1.70	120	90	1.00
52	30	1.50	150	112	.90
65	45	1.40	180	135	.87

ACETATE PROCESS

Denier	Price	Denier	Price
45	$1.60	125	$1.10
60	1.50	150	1.00
75	1.40	300	1.00
100	1.30		

Rayon Waste

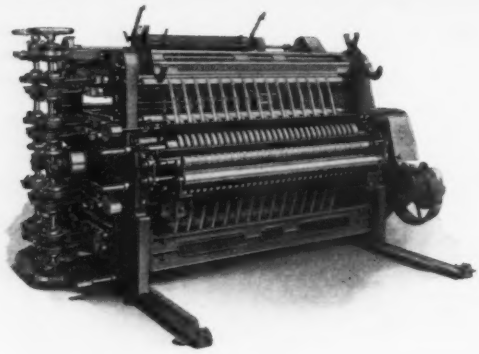
Open bleached waste	$0.13 – $0.14
Open bleached waste	.10½
Bleached thread waste (mfs.)	.09
Bleached thread waste (misc.)	.06 – .07
Colored thread waste	.03 – .04
Colored clips	.03 – .04

CONVERTED RAYON WASTE

Bleached tops	$0.30 – $0.32½
Unbleached tops	.27 – .28
Bleached noils	.11
Unbleached noils	.09½
Bleached garnetts	.12
Unbleached garnetts	.13
Colored garnetts	.10 – .11

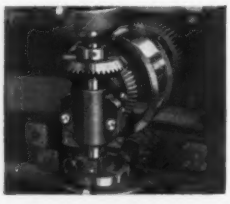
Silk Waste

Kibizzo Kakai Grand XX	0.50
Kibizzo Kakai Triple Extra	.44
Frison Grand Double	.49
Pierced Cocoons	.50



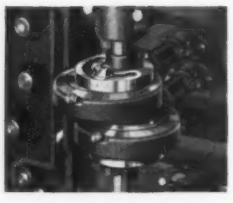
A NEW TAPE CONDENSER WITH WANTED FEATURES

The New Proctor Tape Condenser embodies exclusive new features of design that enable it to handle either long or short stock at production rates much higher than ever before attained, and insure a dependable uniformity of roving . . . reduced waste . . . trouble-free performance . . . instant, positive adjustments . . . time saving . . . lower cost.



Central drive for eccentric shafts distributing load evenly between the upper and lower rubbing aprons.

Ball bearing eccentrics with index plate graduated to give instant, accurate setting for each ⅛ inch of throw.



Evidence of improved design and superior results is given in the deep groove principle of the New Proctor Tape Condenser . . . the individual tapes . . . the tandem aprons that give double the usual rubbing surface . . . the ball bearings on eccentrics and eccentric shafts that permit faster running to take full advantage of the extra length of rubbing . . . the instant, positive setting of eccentric to graduated scale that gives exact length of stroke for each apron, and proper balance . . . the shift adjustment that distributes wear over whole width of apron giving prolonged service life . . . the heavier, stronger construction throughout.

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